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THE PERCEIVED EFFECTIVENESS OF A TEACHER EDUCATION PROGRAM FOR TEACHERS OF ALLIED HEALTH

by

© PETER MUCHIRI NGATIA

A THESIS

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Chester Bumbarger
Supervisor

External Examiner

Date April 17th, 1984

This thesis is dedicated to my loving parents, Long Ngatia and Jane Wangari.

ABSTRACT

The purpose of the study was to gauge the effectiveness of the Allied Health Teacher Education program in the context of the Republic of Kenya. Data on the degree to which the stakeholders of the evaluand perceived the program as being effective was gathered through three sets of questionnaires: the Graduate Questionnaire; the Supervisor Questionnaire; and Non-participant Questionnaire.

The analysis of data revealed a general satisfaction of the graduates and their supervisors with the program. Both the graduates and the supervisors, and indeed the untrained faculty, perceived the program as having been moderately effective. The supervisors and the untrained faculty, however, seemed to rate the degree of effectiveness better than the graduates.

Major strengths of the program, as perceived by the graduates, seemed to lie in their preparation in the competencies (skills, attitudes, and knowledge) related to the "survival skills" of a classroom teacher, namely, competencies related to the areas of assessment, lesson preparation, and lesson presentation. The supervisors, on the other hand, seemed to view competencies related to communication, assessment and professional awareness as having received a better treatment overall.

As regards the day-to-day operation of the program, the graduates registered profound dissatisfaction with the present arrangement of commuting for lectures, lack of human and physical resources, and the time alloted to what they considered to be the most important learning experiences--the termination project (Thesis) and the teaching practice.

From the findings, conclusions, implications, and recommendations related to the program modification, administration of evaluative studies, and the carrying on of future evaluative studies of the allied health teacher education program, were drawn and presented.

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CHAPTER I

INTRODUCTION

Systematic appraisal of new innovations and ongoing programs is a vital administrative task in today's organizations, irrespective of whether they are profit or non-profit, public or private. Pressures from within organizations and without are forcing all cadres of administrators to rethink their decision-making strategies. Key administrators who have hitherto relied heavily on their intellect, common sense, or even the "assumed good" of innovations or ongoing programs to make crucial decisions are being asked to produce "evaluative data to support even the most basic kinds of decisions" (Gadner, 1977:571). This increased interest in the evaluation process appears to have been spurred by the skepticism about the effectiveness of the various intervention programs. Also, the realization that the common pool of resources is dwindling faster than most economies can regenerate it has compelled governments' agencies to assume a very strict disposition in distributing resources. The process of evaluation is being used, almost exclusively, to ensure accountability as well as management efficiency.

The apparent extensive use of the evaluation process does not imply that the process is accepted across the board. Some key administrators view the process as a challenge to their authority and, as such, disdain it. Glass (1975) categorizes such administrators and their like within the "anti-evaluation side." He contends that this cohort unreservingly condones the "virtue of non-evaluativeness" because "it avoids the crushing pressure of judgemental averments" (p. 10). Such people, Glass continues to say, are afraid: afraid of knowing themselves objectively; afraid of knowing what they are doing, and why and with what consequences. They are afraid of the feedback earnestly proffered by the evaluator (p. 10). This unwarranted fear makes them neurotic, ignorant, refractory and less effective in the pursuance of their obligations.

The "pro-evaluation" side, on the other hand, simply defend their position by three tenets, viz: (a) the sanctity of science; (b) the public's right to know; and (c) the goodness of "feedback" (Glass, p. 10). Then why the resistance? In addition to the "fear of knowing" (clients and/or administrators), Carter (1971) attributed most resistances against evaluation to "managerial bias" and "small-mindedness" (p. 6).

The resistance notwithstanding, the process of evaluation has become a widespread phenomenon in all levels of organizations, and the society at large. To indicate its pervasiveness, Glass notes that "even those not baptized in the evaluation faith have . . . been inundated by the waves of writing of the last ten years extolling the virtues of evaluation" (p. 10). The amendment of the Title I legislation by the United States Congress which guaranteed that there would be evaluation of the educational effectiveness of the programs funded under the legislation is just one example (Cross, 1978:4). In yet another instance, Jimmy Carter (1974), in his gubernatorial capacity, recognized the important role of evaluation in the management of the state-run social service programs in the state of Georgia. The governor stated:

> We in government are faced with the problem of determining the "ideal" level of services within constraints of available revenues . . . . On what basis and toward what end will these programs be directed and at what costs?

In reply, the governor pointed out that the "question can only be answered through an evaluation system for social service programs." This faith in the process of evaluation must have had some impact upon the American decision-making process during Jimmy Carter's presidency.

The Organization of Economic and Cultural Development (O.E.C.D.) (1976:12) too indicated a positive inclination toward the process of evaluation. This organization saw the evaluation process as a cure to the painful process of selecting decision alternatives that "officials and patrons" go through to make decisions "on too little information."

The education system seems to have taken a lead role in adopting and entrenching the evaluation process. Indeed, the process has almost become institutionalized. It is being used to justify even the very basic functions of education.

This overwhelming endorsement of the process is not a mere historical accident; neither is it a simple-minded vogue. Rather, it is a response to the generalized vulnerability of the education system to public criticism--the Achilles heel of education.

In discussing the endorsement, Popham (1974) identifies legislative mandates, public dissatisfaction with educational institutions and products, and the influence of responsible educators as forces that have helped consolidate the process of evaluation as a vital component of most innovations and ongoing programs within the context of education.

In spite of the apparent pervasive use of evaluation in education, teacher education programs (the evaluand of this study) still go unassessed. It is hard to believe this given the important role of teacher education in maintaining educational institutions, however, various sources are in agreement that this is the case.

A search of the Dissertation Abstracts, Education Index and the Educational Resources Information Center (ERIC) revealed several studies on teacher characteristics and behaviours and only a handful of evaluative studies of teacher education programs. Barr (1953:18) had arrived at the same conclusion. He wrote: "When one surveys the situation in teacher education, one finds much planning but little evaluation." In a more recently published work, Katz and Associates (1981:18) confirmed that "few [teacher training] institutions . . . systematically follow-up their graduates."

The apparent reluctance to evaluate teacher preparation programs is explained through speculation rather than solid evidence. Katz et al. (1981) are of the opinion that anticipated effort, cost and time, and the queasy feeling by those responsible for programs that they will be judged and found wanting are possible reasons. McCutcheon (1979: 91) could not agree more. This author attributes the evaluation lapse to apprehension of the faculty and administrators of teacher education programs.

While agreeing with Katz and his associates, Falcone (1977:68) was also of the feeling that evaluative studies on teacher education programs were mainly hampered by lack of universal evaluation criteria--"measures against which [teacher education programs] could be judged" (Steel & Mess, 1970:1). Falcone explained:

> The enunciation of criteria is viewed as an essential framework for the collection of data, as a base of comparison, and as an initiator of judgement. Without criteria there can be no judgement. Without judgement, there is no evaluation. (p. 69)

The multi-dimensionality of a program as diverse as a teacher education program, however, makes the idea of universal evaluation criteria look short-sighted and parochial at best, indeed, wishful thinking. To say the least, to develop such criteria it would require _a priori_, among other things, an agreement on the aims of education, an agreement on the role of the teacher, an agreement on the characteristics of the good teacher, and more knowledge about the teaching-learning process. It is common knowledge that these requirements are perennial problems of the education system worldwide.

As regards teacher education programs within the medical context (the evaluand of this study), the primary concern is not the universality of the evaluative criteria or for that matter the lack of criteria. It is the non-existence of systematic evaluative studies. Whatever is reported in the literature as evaluation is discouragingly superficial and more often than not narrowly conceived. The recency of these programs may partially explain this pathetic state of affairs.

Background to the Study

This study was undertaken within the context of the Republic of Kenya. The evaluand was a teacher education program for the teachers of allied health (paramedical) personnel. It is based at the Medical Training Centre -- "a Kenyan government institution under the Ministry of Health that is responsible for the training of all cadres of allied health professions in Kenya" (Mutema, 1981:3)--at Nairobi, the capital city of the Republic.

The program which is commonly referred to as "medical education" was started in 1978 by the Ministry of Health in consultation with the World Health Organization. Its primary goal was to prepare teachers of health professions in the art and science of teaching, in addition to their professional training. The first director of the program described the program as being "process oriented, focusing on how to teach and not what to teach" (Medical Training Centre Annual Graduation Report, 1980:31).

Like many other teacher education programs for allied health professions in the world, the medical education program in Kenya is patterned on the model of teacher education for health professions developed by the World Health Organization. Despite claims of uniqueness of this model, a close scrutiny reveals multiple resemblances to those in current use in the sphere of general education. Candidly put, the WHO model is a transplant, albeit with some minor changes, of the general education model(s) to medical education settings.

The clientele of the medical education program at Nairobi is drawn from the pool of untrained teachers of the various allied health professions. A minority of the students come from other African countries and the Middle East.

The Kenyan student clientele is recruited by the heads of the various departments/faculties of the Medical Training Centre and Satellites. Seniority (contrary to conventional wisdom) is usually given a higher weighting than the other considerations in selecting the participants. No interviews or aptitude tests are administered.

Upon selection, the faculty member is relieved of his teaching duties and is granted a one-year study leave with full pay. He or she is expected to attend all classes and participate fully in the activities of the medical education program.

The duration of the course of study is one calendar year. The year is divided into three academic terms. During these terms students cover courses relating to curriculum development, educational psychology, sociology, educational communication and technology, management, statistics/research methods and one elective. These courses are taken in the following sequence:

> In the first term the students take five required courses mainly taught at Kenyatta University College [the Education Campus of the University of Nairobi]. . . . In the second and third terms students take two required courses and one elective subject, the required subject being principally taught at the Medical Training Centre. The final period of the course is spent on the individual research and practice teaching projects. (M.T.C., Annual Graduation Paper, 1980:32)

Apparently, no major courses are taught at the Faculty of Medical Education Development/Training and Research (the medical education program is run under the auspices of this multidisciplinary faculty). Those courses that are not given at the Kenyatta University College are given elsewhere. For instance, the management course is taught at the Kenya Institute of Administration, and the elective courses are taught at the Medical School, University of Nairobi. This leaves the faculty with only one function as far as the teacher education program is concerned--that of coordinating the program. This one function could be very demanding for the director of the program, the only full-time faculty member. Other functions of the faculty include institutional research, consultation, and evaluation.

Upon successful completion of the teacher education program, the graduates are awarded a Diploma in Education (Health Professions). They are generally expected to return to their respective institutions and faculties/departments to resume their teaching responsibilities. While accomplishing this primary responsibility, they may be called upon to assist the untrained faculty within the institution, department/faculty, or help in curriculum designing, student counselling, etc. In so doing, it is hoped that the various faculties/departments will be more conducive for learning and teaching.

This hope, needless to say, is based solely on the assumptions that the medical education program does indeed have something to offer its graduates, that the content is adequately treated, that the content is relevant, and that the experiences are appropriately positive. Any contradiction to these assumptions, which are in no way exhaustive, may raise serious doubts as to whether the graduates are actually equipped to perform the task at hand. In turn, this may raise even more serious doubts as to whether this highly priced endeavour is worth the amount of resources and energies being channeled to it. The limited evidence currently available makes it impossible to determine the actual worth of this program.

The Problem

The primary task of teacher education programs within the medical context, it has been reiterated, is to "sift ideas put forward in the field of educational science, [and to relate] them to the education of health workers"

(WHO, 1973:7). Whether the programs achieve the ultimate aim, i.e., production of better teachers for the allied health professions, is anybody's guess. A WHO study group (1973:7) acknowledges that "there is yet not enough proof that participation in a teacher training programme produces a better teacher." Indeed, the adequacy, relevance, utility and/or effectiveness of these programs have been largely assumed or simply based on uneducated speculation founded upon common sense and raw experience. It is timely, therefore, that the effectiveness of these programs be gauged and their relative worth be demonstrated through the collection of sound evidence.

Purpose of the Study

The purpose of this study was to gauge the effectiveness of the teacher education program for the teachers of allied health professions in the Republic of Kenya.

To accomplish this purpose, answers to the following questions were sought:

1. To what extent did the graduates of the teacher education program perceive the various instructional components as being effective?
2. To what extent were the graduates of the teacher education program satisfied with the program?
3. To what extent did the graduates of the program perceive their preparation as having assisted them to develop skills, attitudes, and knowledge deemed necessary for effective teaching?

4. To what extent did the supervisors of the graduates (heads of departments/faculties) perceive the program as having assisted their instructional staff (graduates only) in developing skills, attitudes, and knowledge deemed necessary for effective teaching?
5. To what extent does the teacher preparation program approximate the model of an Effective Faculty Development Program?
6. Were the perceptions of the graduates concerning their perceived level of preparation in the various skills, attitudes, and knowledge related to the following independent variables: (a) teaching experience; (b) year diploma in education (health professions) was earned; and (c) age?
7. Did the faculty of the allied health institutions perceive the teacher education program as being generally accessible?
8. What skills, attitudes, and knowledge did the allied faculty consider important for the teaching of allied health professions?
9. To what extent were the graduates of the program satisifed with the general organization and management of the program?

Hypotheses

No hypotheses were generated since this was an exploratory and descriptive study.

The Delimitations and Limitations

Delimitations

The study was delimited to the teacher preparation function of the Faculty of Medical Education Development/ Training and Research of the Medical Training Centre, Nairobi, Kenya.

The sources of data for the study were delimited to (a) graduates of the program who were currently engaged in teaching health professions; (b) heads of departments (supervisors/senior tutors) of the departments/faculties and institutions that employed the graduates of the program; and (c) faculty members randomly drawn from the various departments/faculties who had not participated in the teacher preparation program.

Effectiveness indicators were delimited to the perceptions of the participants of this study.

Limitations

The first and foremost limitation of this study was the limited generalizability of the findings to other programs. This limitation, however, is not unique to this study. It applies to a majority of studies dealing with program evaluations. Lanier (1973:16), in discussing this shortcoming, notes:

> The disadvantage of program evaluations is that they yield results which often have extremely limited generalizability. The evaluation might indicate how well an entire program worked in its particular setting,

> but it has little power to predict how parts of the program would work when adapted to other settings.

The second limitation of the study was its heavy reliance on questionnaires as the means of data collection. The validity level of questionnaire responses is a controversial issue in research circles.

Thirdly, this study was limited due to the reliance on perceptions to gauge program effectiveness. It is generally recognized that perceptions are sometimes inaccurate and distorted.

Assumptions

1. It was assumed that the responses provided in the questionnaire were accurate statements of the subjects' perceptions of the situation and that they were impartial and honest.
2. It was assumed that the participants of this study were the most appropriate sources of the necessary data.
3. It was assumed that the teacher education program--the evaluand of this study--endeavoured to provide the participants with a common core of skills, knowledge and attitudes pertinent to effective teaching.
4. It was also assumed that the gauging of the relative effectiveness of this program was necessary.

The Definitions of Terms

Allied Health Professions. The term was used to refer to a group of health-related professionals and/or semi-professionals. This term was used synonymously with the term *paramedical*.

Faculty of Educational Development/Training and Research. A faculty of the Medical Training Centre with a primary function of preparing teachers of Allied Health and the secondary functions of evaluation, consultation, and institutional research.

Program Effectiveness. In this study, the term "effectiveness" was used to refer to how well the teacher education program was perceived as accomplishing its goals by the graduates of the program, and the heads of departments/faculties.

Medical Training Centre. This referred to a Kenyan government-managed post-secondary institution that was responsible for training of personnel for all allied health professions.

Program Evaluation. In this study, the term "program evaluation" was used to mean the determination of merit of the teacher preparation program.

The Significance of the Study

The need for institutions to evaluate their undertakings is everpresent. It is a "good thing," often done routinely, when organizations are experiencing "good times."

It is vital for survival when organizations are going through "lean" times. During these times all organizations' undertakings must be justified. The process of evaluation is employed to produce the evidence upon which the judgements and decisions will be based.

In a developing country like Kenya--the site of this study--where meagre resources must be distributed among myriads of essential human service programs, the need for evaluative studies is even more crucial. Only those programs that exhibit a certain degree of success should be funded. Those which fail to meet this criterion should be reorganized or even terminated to allow for diversion of the resources to other urgently needed programs. The evaluand of this study should not be exempted from this general rule.

This study had both practical and theoretical significance.

Practical Significance

The attitudes taken by many people, both in academia and administration, toward evaluation is that evaluation is a "necessary evil, conducted to please someone else" (Berk, 1981:1). In subscribing to this erroneous inclination, these people tend to ignore the practical utility of evaluative studies.

This study had practical significance in a number of areas.

The findings of this study may be used to increase the program's effectiveness if program managers are confronted with information discrepant with their perceptions.

Program administrators could use the findings of this study to legitimize the need for continued support of the program in its current state, its revision, and/or its complete overhaul.

The government of Kenya (Ministry of Health or the Directorate of Personnel Management) could use the findings of this study to make appropriate decisions regarding the training of teachers of allied health professions.

And finally, the findings of this study may provide for an overview of the state of affairs (the state of the art) of the teacher training programs for the allied health professions. The need (or lack thereof) to introduce "educational science" to teachers of medical institutions may be demonstrated empirically.

Theoretical Significance

Literature on teacher education is not completely lacking in evaluative studies (Isle, 1942; Zulauf, 1956; Marshall, 1974; Greenburg & others, 1972; Starkman et al., 1979). However, evaluative studies using the Multi-Theory Driven Approach are rare, and in any comprehensive form seem to be non-existent. This study may, therefore, have some areas of potential theoretical significance.

The study may contribute to the body of research in educational administration which probes the values of the various evaluation persuasions in gauging organizational effectiveness.

The study may assist in filling the gap regarding the worth of teacher preparation programs both within and without educational institutions.

The findings of this study may provide a repertoire of competencies deemed by potential teacher trainees, trained teachers and administrators of teacher training institutions to be necessary for effective instruction within a medical education context.

Finally, the findings of this research may be used as a base for further research in the general area of teacher education for allied health professions.

Organization of the Thesis

The content of Chapter I comprised the introduction to the study, background to the study, the problem and problem statement, the purpose of the study, the subproblems, the delimitations and limitations, and the assumptions of the study. Definitions of terms and the significance of the study are also included in the chapter.

Chapter II contains the conceptual framework for the study.

Chapter III contains the review of the literature.

In Chapter IV, the research design, instrumentation, methodology of the study, and treatment of data are presented.

Chapter V contains the analysis of the demographic and personal data of the population.

Chapter VI contains the findings and discussion of the findings.

The conclusions, implications, recommendations and a summary of the study is presented in Chapter VII.

A list of references plus an appendix containing correspondence and the research instruments is also provided.

CHAPTER II

CONCEPTUAL FRAMEWORK

The primary objective of this study was to determine the effectiveness of a teacher education program for the teachers of allied health personnel.

To attain this objective, the two central concepts implicitly or subtly stated, i.e., objectives of a teacher education program (skills, knowledge, and attitudes) and the notion of evaluation, were examined and interrelated in order to develop a usable conceptual framework. The framework was used to help the researcher in "setting the theoretical boundaries [of the study]; discriminating between the relevant and irrelevant properties; and indicating what is going to be examined" (Mouzelis, 1968:58). It was also used as the basis for designing the instruments for the study.

Conceptualizations of Teaching Skills, Attitudes, and Knowledge

Teacher education programs have a twofold function: (a) to familiarize prospective teachers with the nature of the tasks they will be required to perform in their roles as practitioners of the teaching profession; and (b) to provide prospective teachers with the knowledge, skills and attitudes necessary for adequate discharge of their responsibilities.

Everyone seems to agree that these functions are critical to the teaching profession. Few educators and "significant others," if any, however agree on precisely what skills, attitudes and knowledge characterize an effective practitioner of the teaching profession. The differences in philosophical stances of the contemporary pluralistic society are partially responsible for this disagreement. The varied nature of the teaching profession and indeed the whole field of education too does not help the situation.

Notwithstanding these differences and recognizing the limitations of education and other social science fields of study, concerned educators and researchers have continued the search for better ways to conceptualize the skills, attitudes and knowledge necessary for successful teaching. Their success, it is hoped, will place the derivation of these skills, attitudes, and knowledge on a rational basis rather than on experience, tradition, common sense, and authority, a practice that has tarnished the image of teacher preparation programs.

A few ways of thinking about the skills, attitudes, and knowledge needed of a teacher are outlined by Hewitson (1979). The first is the list of competencies approach. In this approach, teaching skills are classified into two categories: (a) survival skills; and (b) personal-professional skills. The survival skills are viewed as the "critical skills" of teaching, skills without which a teacher cannot function as a teacher. They include planning and implementation, and interaction skills. Lesson preparation and planning skills, communication and interpersonal relationship skills are subsumed under this general rubric.

The personal-professional skills are, put in another way, the "nice to know or have" skills of the teaching profession. They are not the "core" of the teaching profession, so to speak. They include theoretical and knowledge skills, personality variables, and optional skills.

Hewitson (1979:13) unhestatingly criticizes the adoption of this conceptualization for the planning of teacher education programs, since it would logically concentrate its efforts upon developing the survival skills thereby ignoring the professional-personal skills. The author warns:

> Such a concentration of effort could lead to premature mental closure on the part of students with regard to the theoretical foundations of education, e.g. to the ideas and issues associated with philosophy, psychology and sociology of education . . . . [This] may reduce teaching behaviours to the mechanistic tricks of the trade level.

For a teacher education program to endorse such a conceptualization is to also, knowingly or unknowingly, endorse the narrowly conceived concept of "teacher training," and to brush aside the contemporary, fashionable and widely accepted notion of "teacher education."

On another dimension, Edgar (1974) was critical of such a program for its failure to incorporate the "personal-development" component. The author warns that:

> [Teacher] training programs which ignore the development concerns of trainees do so at their risk. The result is the failure to meet the self-socialization demands of future teachers, failure to develop those

> competencies that will make independent, self-actualizing people who can relate to students as human beings rather than as teachers in a "role as a teacher." (p. 380)

This author's conception of teacher preparation programs, like that of Hewitson, is broader in the sense that it attempts to incorporate social, technical, and personal development skills in the teacher-to-be.

A second way of conceptualizing teaching competencies, skills, attitudes and knowledge deemed necessary for teaching is based on teaching contexts. Underlying this conceptualization is the assumption that "all students entering a preservice teacher education bring with them abilities which can be developed as a set of teaching skills which are universally desirable for effective performance" (Hewitson, 1979:13). Three major variables are associated with this context-related conceptualization. The first variable is the level at which teaching occurs (pre-school, primary, secondary, or post-secondary); the second is the subject area to be taught (math, anatomy, organizational behaviour, Swahili, etc.); and the nature of the particular group (age, ability and interests, social economic status, etc.). From these variables, context-specific skills, attitudes, and knowledge are derived.

Competency-based teacher education (C.B.T.E.) programs provide another way of conceptualizing teaching skills. The term "competency" which is mainly used in the plural and normally used in conjunction with the "teacher" refers to teaching skills, attitudes, and knowledge. According to Cooper and

Weber (1973:15), teacher competencies are variously defined as "attidues, understandings, skills, and behaviors that facilitate intellectual, social, emotional, and physical growth in [learners]." Thus a C.B.T.E. program can be viewed as a program which seeks to foster a set of attitudes, skills, and knowledge (teacher competencies) in its clientele.

These competencies are generally derived from various sources, some of which include existing lists of verified teacher competencies, input from the teaching profession (needs assessment), theoretical constructs/models analyses, task analysis, client's input, and course translations (Dodl, 1973; Hall & Jones, 1976). Since it is not possible to include all the competencies thus derived in a teacher education program, the least important ones, according to program designers, are discarded and the ones deemed necessary for effective teaching are adopted. This renders the selection process political, to say the least. Research literature on the validity of competencies or rather on what set of competencies "make a difference" in learner achievement is still devoid of concrete evidence. Much criticism of C.B.T.E. has been based on this shortcoming.

A fourth way of thinking about teaching skills, attitudes and knowledge is to view the teaching job as a cluster of roles, roles that a teacher (the role incumbent) plays in the every-day performance of the teaching job. Hewitson (1979) identifies four roles that teachers of the general system of education play, i.e., the teacher as a classroom teacher, the teacher as a member of the school staff, the teacher as a member of the teaching profession, and the teacher as a member of the community.

For this study this latter conceptualization will be used to construct a conceptual framework for the derivation of skills, attitudes, and knowledge necessary for teachers of allied health. The social systems model will form the foundation for the conceptual framework.

The Model

The basic assumption in using the "meta-role" conceptualization is that teacher education programs are essentially concerned with preparing their clientele to recognize and internalize certain role expectations. The recognition and internalization of the role expectations are attained through a process of interaction between programs and individuals as they move toward certain goals, be they personal or organizational goals. This being so, a teacher education program can rightfully be viewed as a social system.

The term social system, according to Getzels and Guba (1957:427), is conceptual rather than descriptive. These proponents, actually the men behind the formulation of the concept, warn that the concept "must not be confused with 'society' or 'state' or somehow applicable only to large aggregates of human interaction." It is (they claim) applicable to all levels or sizes of the units under consideration. It can therefore be used to conceptualize a teacher education program.

Citing from the classic paper by Getzels and Guba, Campbell (1977:184) describes the social system in the following way:

> The social system is conceived as involving two classes of phenomena that may be thought of as independent but, in an actual situation, are interactive. There are first the institutions characterized by certain roles and expectations . . . . And there are, second, the individuals with certain personalities and dispositions inhabiting the system. The social behavior found in this system may be understood as a function of two major elements: institution, role, and expectation, which together constitute the nomothetic or normative dimension of activity in a social system; and individual, personality and need disposition, which together constitute the idiographic or personal dimension of activity in a social system.

Figure 1 depicts the social systems model.

Having conceptualized a teacher education program as a social system, it is only appropriate to make an attempt at identifying the system's various components. These include: institutions, roles and role expectations on the nomothetic dimension; and individuals, needs and need dispositions on the idiographic dimension.

Institutions are described by Getzels and Guba (1957: 425) as "the agencies established to carry out those institutionalized functions [e.g., educating, governing, policing] for the social system." Within the context of teacher education (a social system for educating teachers), these institutions include the various foundational and academic departments which offer specialized courses to prospective teachers.

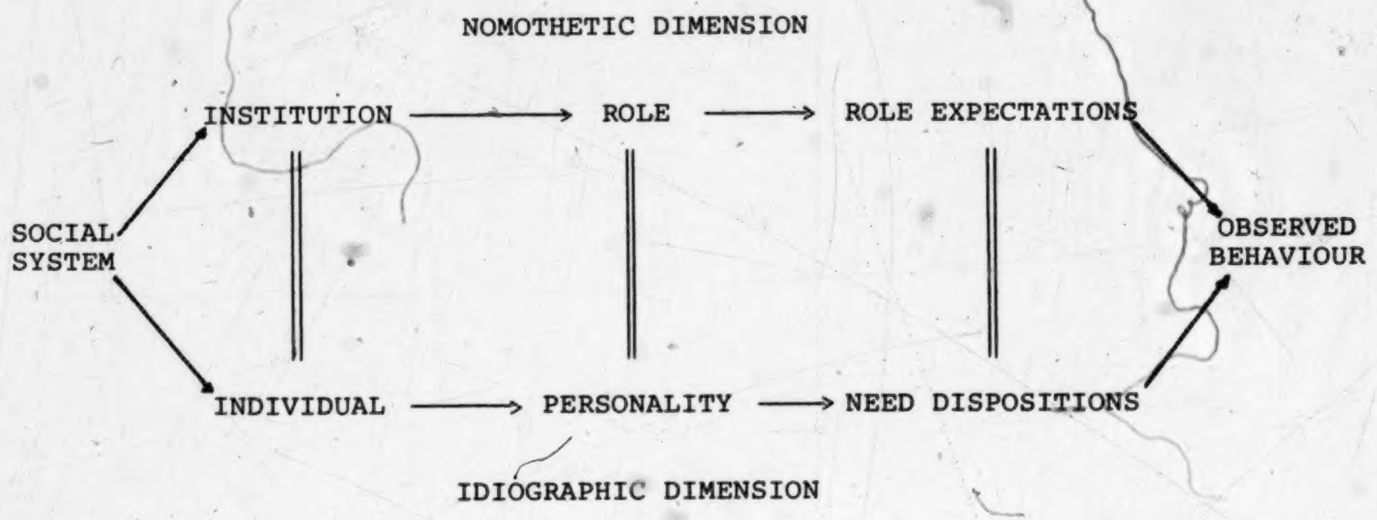
NOMOTHETIC DIMENSION
SOCIAL SYSTEM
INSTITUTION
ROLE
ROLE EXPECTATIONS
INDIVIDUAL
PERSONALITY
NEED DISPOSITIONS
OBSERVED BEHAVIOUR
IDIOGRAPHIC DIMENSION

Figure 1. General model showing the nomothetic and the idiographic dimensions of social behaviour (Getzels & Guba, 1957:429).

Roles and role expectations pervade the institutions of the social system. They are defined as the "normative rights and duties" of the role incumbent.

In a teacher education program, role incumbents include the deans of the faculty of education or principals/ directors of teacher training programs, the faculty, the students, the clerical staff, and even the janitorial staff. The role incumbent of interest here is the student, or rather the teacher-to-be. He is perceived as a potential player of the roles of a master teacher, viz. teacher as a classroom teacher; teacher as a member of his profession; teacher as a member of the faculty; and teacher as a member of the society, each time he interacts with materials designed to prepare him in each of these roles.

But as Getzels and his associate note, these various roles are not "devoid of personal or other individualizing characteristics [idiographic dimension] . . . . They are filled by real, flesh-and-blood persons" (1957:426). These persons, according to Brottman (1971:145), possess attitudes toward social objects and internalized social values. They thus bring to a teacher program a reservoir of need dispositions representing their attitudes and values.

This conceptualization, needless to say, has the implication that teacher behaviour is a product of the interaction between the "conceptually independent and phenomenally interactive" dimensions of the institution and the individual. Thus teacher education curricula are primarily functional derivatives of roles and role expectations and individual needs and need dispositions. This, of course, does not preclude other sources of teacher competencies.

Figure 2 is a diagrammatic representation of the foregoing conceptualization in relation to the preparation of the teachers of the allied health personnel. The discontinuity of the lines separating the various role expectations indicates that no permanence in the location of the roles is assumed. The ordering of the roles, however, is an indication of the relative importance of these roles as they relate to medical education. The role of a teacher as a classroom teacher, for instance, is ranked as number one, meaning that it is considered "as a vital role for the teachers of the allied health professions and indeed those of other professions too." Subsumed under this role is what Hewitson (1979) referred to as survival skills of the teacher.

It is worthwhile to note that this conceptualization is not an isolated one. It has the potential to implicitly incorporate other approaches in determining the content of teacher education programs. It is, as a matter of fact, an eclectic approach.

In conclusion of this section, it should be stated that the problem of role stability has not been ignored in this attempt to conceptualize the derivation of skills, attitudes, and knowledge pertinent to effective teacher behaviour. Indeed, the role expectations included in Figure 2 are merely some that are thought to have relative stability

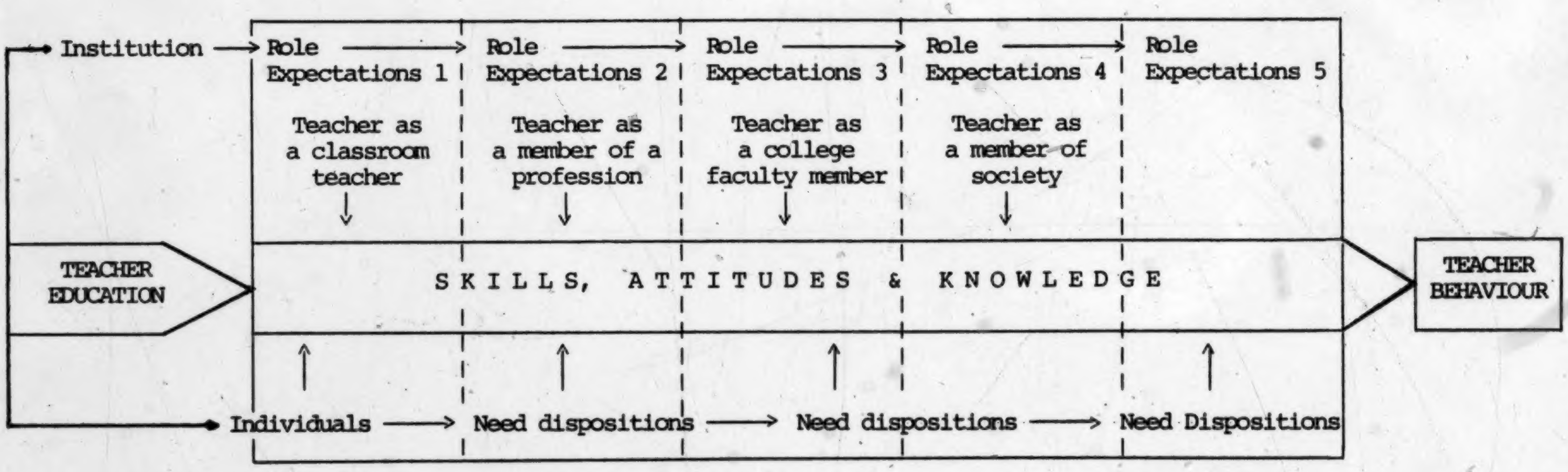
Institution
Role Expectations 1
Role Expectations 2
Role Expectations 3
Role Expectations 4
Role Expectations 5
Teacher as a classroom teacher
Teacher as a member of a profession
Teacher as a college faculty member
Teacher as a member of society
TEACHER EDUCATION
SKILLS, ATTITUDES & KNOWLEDGE
TEACHER BEHAVIOUR
Individuals
Need dispositions
Need dispositions
Need Dispositions

Figure 2. Derivations of Skills, Attitudes and Knowledge to be included in teacher education curricula.

as well as speculative utility. Their viability over time is difficult to ascertain, for no one can predict with any degree of precision what teaching roles will be in the future. Roles, after all, are supposed to be "dynamic." It can, however, be ascertained that any emerging roles can easily be incorporated without disturbing this conceptualization.

Conceptualizing Evaluation

Evaluation is a form of inquiry which assigns some form of value to the possessions and day-to-day or special activities of human beings. It is the valuing aspect which distinguishes it from other forms of inquiry. Thus, the mere collection of data does not constitute evaluation; judgements must be made about the data in some implicit or explicit value structure.

The term "value" is, however, very elusive. What may be of value to one is not necessarily valuable to another. The sources of the values too are diverse, and while a given value may be of considerable philosophical worth, it may be the converse from a sociological or religious point of view. Determination of values is hence a very delicate if not precarious process. It constitutes the most professional task of evaluators nonetheless (Stufflebeam, 1971; Scriven, 1974; Apple, 1974).

Apple (1974:9) notes that evaluation "itself is a process of social valuing, therefore; the act of evaluation

. . . [is] not neutral." This implies that the evaluation process is inherently vulnerable to human biases. Such an implication, needless to say, makes the evaluation process an easy "target practice" for evaluation critics. Coney and Lohner (1976:11) offer some suggestions to help deter critics of educational evaluation:

> Clear thinking about values is essential in education because all planned educational practice is influenced by the value attached to the educational ends that are sought. Thus, any research into educational activity has to deal with the problem of valuation and offer clarification of valuation issues, if it is to contribute to the rationalization of educational policy.

In so far as an evaluator does this, he or she can begin to place more importance to the values generally expressed by the stakeholders of the evaluand.

Toward a Definition of Evaluation

One only needs to take a brief glimpse of the various "evaluation schools of thought" to realize that a universally acceptable definition of the term "evaluation" is not readily available. A cursory review of these schools of thought will help clarify this assertion.

Stufflebeam (1971:9-16) delineates four evaluation schools of thought out of which four definitions of evaluation are derived; viz. evaluation as measurement, evaluation as professional judgement, evaluation as congruence between performance and objectives, and decision-oriented evaluation. The definitions have certain attractions and disadvantages worth pointing out in this study.

The early definition of the term evaluation equated the term with measurement. To evaluate, according to this school of thought, "means to measure results, effects or performance using some formalized instrument which produces data that can be compared to some sort of standardized scale" (Gadner, 1977:575). "Tyler views evaluation as measuring changes in students as a result of educational activity" (Falcone, 1977:30). Thorndike and Hagen (1961:27) refer to it as "appraisal of change." These authors (Thorndike & Hagen) define the term evaluation in the following way:

> The term "evaluation" as we use it is closely related to measurement. It is in some respects more inclusive, including informal and intuitive judgements . . . and . . . the aspect of valuing . . . of saying what is desirable and good. Good measurement techniques provide a solid foundation for sound evaluation.

Ebel (1965:450) is of this school of thought too. The author defines evaluation as:

> A judgement of merit, sometimes based solely on measurements such as those provided by test scores but more frequently involving the synthesis of various measurements, critical incidents, subjective impressions, and other kinds of evidence.

The view of evaluation held by these authors (Tyler; Thorndike *et al.*; and Ebel) is not without a major advantage. It provides a conceptual base for evaluative studies whereby rigorous development and testing of evaluative instruments is possible. However, it is criticized for "being too narrow in focus (questions of value judgements are left out) and too mechanical in approach (the instrument becomes the focus)"

(Falcone, 1977:32).

Ralph Tyler's work in the eight-year study of the 1930s is credited for being the "roots" of the "congruence definition" of evaluation. Within this school of thought, evaluation is defined as:

> The process of specifying or identifying goals, objectives or standards of performance; identifying or developing tools to measure performance; and comparing the measurement data collected with the previously identified objectives or standards to determine the degree of discrepancy or congruence which exists.

The critics of the definition are apt to point out that too much effort is directed at determining the congruence of the specified objectives at the expense of determining the worth of the objectives and certifying that the process used to achieve the objectives is appropriate.

Evaluation as professional judgement is the third commonly found definition. It equates the term "evaluation" with "professional judgement." Its utility is evidenced in situations whereby a qualified professional, an expert so to speak, is employed to examine the evaluand and then render an expert opinion regarding its quality, effectiveness, or efficiency. "The resulting statement of relative worth is the evaluation" (Gadner, p. 574).

The decision-oriented evaluation school of thought views evaluation as "the process of delineating, obtaining, and providing useful information for judging decision alternatives" (Stufflebeam, 1971:40). Other authors, such as Cronbach and Suppes (1969), agree with the definition of evaluation as decision making, but Worthen and Sanders (1977) object to it (the definition) for neglecting valuing. However, Stufflebeam repudiates that criticism by noting that "values come most meaningfully into play when there are choices to be made, and the making of choices is the essential act of decision making." While acknowledging this definition, Razen and Rossi (1982) concede that the decision-making definition is constrained by such other societal forces as political, financial, etc., and as such may not have the credibility accorded by Stufflebeam.

Conceptual Models of Evaluation

An array of evaluation models or, rather, "approaches or persuasions" (Stake, 1981) emanates from the variety of definitions of evaluation discussed in the foregoing. A literature search by Gephart (1977) revealed the existence of over thirty evaluation approaches. Today the number can only be expected to be higher since evaluation as a field of study is still young and very much in the process of developing.

Several attempts have been made to present the approaches in a more systematic manner. Popham (1975), for instance, groups the approaches in four categories, namely: goal attainment models; judgemental models emphasizing intrinsic criteria; judgemental models emphasizing extrinsic criteria; and decision facilitation models. Worthen and Sanders (1973:42) place the various approaches into two descriptive categories: approaches requiring the evaluator to play a judgemental role and approaches that are of a decision-management nature. And lastly, House (1977) classifies the various approaches into a taxonomy of eight models: the system analysis; behavioral objective; decision making; goal free; art criticism; accreditation; adversary; and transaction. Figure 3 shows the various approaches and their concomitant proponents, major audiences, assumptions, methodology, outcome, and typical questions.

While there have been claims and counterclaims of the merit of the various approaches, it has been generally acknowledged that each of these approaches has something to offer to the evaluator. To restrict oneself to a given approach, therefore, is to be extremely parochial in one's conception of the evaluation process. Worthen and Sanders (1973:41) suggested that the models proposed by individual theorists should not be considered as "cookbook recipes for evaluation." Rather, they advised that:

> The would-be evaluator be eclectic, whenever possible, in selecting useful concepts from each . . . and combining them into an evaluation plan that is better for having incorporated the best features of several approaches. (p. 41)

Conceptual Framework for the Study

The preceding conceptualization of teaching skills and teacher education programs in general indicates the multi-faceted nature of the concepts. Since this study is designed around these concepts, it is important to address

Model	Proponents	Major Audiences	Assumes Consensus on
System Analysis	Rivlin	Economists, managers	Goals; known cause & effect; quantified variables.
Behavioral Objectives	Tyler Popham	Managers, psychologists	Prespecified objectives; quantified outcome variables
Decision Making	Stufflebeam, Alkin Stake (1967)	Decision-makers, esp. administrators	General goals; criteria
Goal Free	Scriven	Consumers	Consequences; criteria
Art Criticism	Eisner Keely	Connoisseurs Consumers	Critics, standards
Accreditation	North Central Association	Teachers, public	Criteria, panel, procedures
Adversary	Owens, Levine, Wolf	Jury	Procedures and judges
Transaction	Stake, Smith, MacDonald, Parlett Hamilton	Client Practitioners	Negotiations; activities

Figure 3. A Taxonomy of Evaluation Models. (Reproduced from House, E. Assumptions Underlying Evaluation Models, 1977).

Figure 3 (cont'd)

Methodology	Outcome	Typical Questions
PPBS: Linear programming; planned variation; cost benefit analysis.	Efficiency	Are the expected effects achieved? Can the effects be achieved more economically? What are the most efficient programs?
Behavioral Objectives; achievement tests	Productivity; accountability	Are the students achieving the objectives? Is the teacher producing?
Surveys, questionnaires, interviews; natural variation	Effectiveness; quality control	Is the program effective? What parts are effective?
Bias control; logical analysis; modus operandi	Consumer choice; social utility	What are all the effects?
Critical review	Improved standards	Would a critic approve this program?
Review by panel; self-study	Professional acceptance	How would professionals rate this program?
Quasi-legal procedures	Resolution	What are the arguments for and against the program?
Case Studies, interviews, observations	Understanding; diversity	What does the program look like to different people?

the evaluative issues in the study in a manner which ensures that the various facets of teacher education are given fair treatment. Worthen and Sanders' advice that "the would-be evaluator be eclectic" (p. 41) could not be more appropriate.

In order to fulfil the desire to be eclectic, the "Multi-Goal, Theory Driven Approach" proposed by Chen and Rossi (1981) has been selected as the conceptual framework for evaluating the effectiveness of the Teacher Education Program for the Allied Health Professions. It has been chosen mainly because of its encompassing nature and partly because it is believed to have the potential to detect the effectiveness of the program. Many evaluative studies, according to Chen and Rossi, fail to detect program effectiveness because they are narrowly conceived.

Overview of Multi-Goal, Theory-Driven Approach

The multi-goal, theory-driven approach is based on two premises: (a) that every program has some effects; and (b) that a priori knowledge and social science theory can adequately anticipate the effects that a given social program can be expected to have (Chen & Rossi, 1981:39-40). This approach is, simply said, a wholesome approach. Unlike other approaches, it does not condemn the other approaches. Rather, it borrows from them those elements that are considered useful. For instance, the goal approach is not just discarded as useless. Instead it is used in conjunction with other approaches to avoid what Deutscher (1977) calls "goal trap"--the pitfall into which evaluators fall when exclusive attention is paid to official program goals. The combination of approaches is partly what differentiates the multi-goal, theory-driven approach from Scriven's famous goal-free evaluation approach. The proponents do, however, admit some resemblance:

> The approach . . . resembles Scriven's goal-free evaluation ideas in emphasizing that programs have some effects that do not necessarily coincide with the intentions of designers and administrators. (p. 40)

But they (the proponents) hastily point out that the approach "differs from [Scriven's goal-free] approach in that it suggests ways in which [the] effects may be discerned" (p. 40).

A multi-goal, theory-driven approach entails "defining a set of outcomes as potential effects of a program, some given by the official goals of the program and others derived from social science knowledge and theory concerning the subject matter in question" (Chen & Rossi, p. 40). It provides program administrators a broader view of their program since the objectives are a product of their desire (official goals) and inference from theory or knowledge. The evaluator, too, in his search for program side effects is not constrained to the officially intended goals: "goals that are picked on the basis of desirability or hope rather than possibility or understanding" (Chen & Rossi, p. 42); or to goals that exhibit stability and subsequently irrelevance over time.

Under the multi-goal, theory-driven approach, many program outcomes are included in the evaluation process. This, to say the obvious, increases the chances that the goals of tomorrow as well as those of today will be included. This minimizes the chances of searching for program effectiveness using obsolete goals.

Three advantages of this approach have been persuasive in adopting this approach for this study's conceptual framework. The first advantage is that the multi-goal, theory-driven approach provides greater opportunities for discovering program effects. By deriving expected program outcomes from the stated official goals, and the theory behind the program, a comprehensive and representative sample of questions can be formulated. The final judgement of the worth of the program arrived at is drawn from a sample of questions representative of the various aspects of the program. In the present study, for example, the items comprising the instruments are drawn from both pertinent theories and the evaluand's literature.

The second advantage spins off from the first. Since decision making is based on available information, it can be argued that the more information available, the better the decisions made. Since this approach generates more information than any other, program administrators and policy makers have a better chance of making educated decisions regarding the effectiveness or lack thereof of their programs.

Finally, by using this approach the administrator resistance to evaluation may be lessened since it assures the program administrators of thorough coverage of all program activities. Chen and Rossi posit that the approach enlarges the number of the outcomes and as such increases the program effects. These authors add that this characteristic of the approach "may help to alleviate some administrator anxieties" (p. 52).

Synthesis

Theoretical issues pertaining to the identification of the sources of teacher competencies (skills, attitudes, and knowledge) were explored in the first section of this chapter. Teacher roles and role expectations, teacher need dispositions plus teacher education theories were identified as the main sources.

The concept of evaluation was examined in the second section of the chapter. The Multi-Goal, Theory-Driven Approach was advanced as the conceptual framework of this study. This approach was considered potentially comprehensive enough to deal with the multi-dimensionality characteristic of the act of teaching.

Using this conceptual framework, several activities considered to be critical to the task of evaluating the effectiveness of the teacher education program for allied health professions were identified. The activities include: identification of teacher roles and role expectations; derivation of teacher competencies (skills, attitudes, and knowledge); and determination of the usefulness of the competencies. For the evaluation task, the activities of instrument construction, data collection, data analysis, reporting the findings and recommendations were identified. Figure 3 is a diagrammatical representation of these activities.

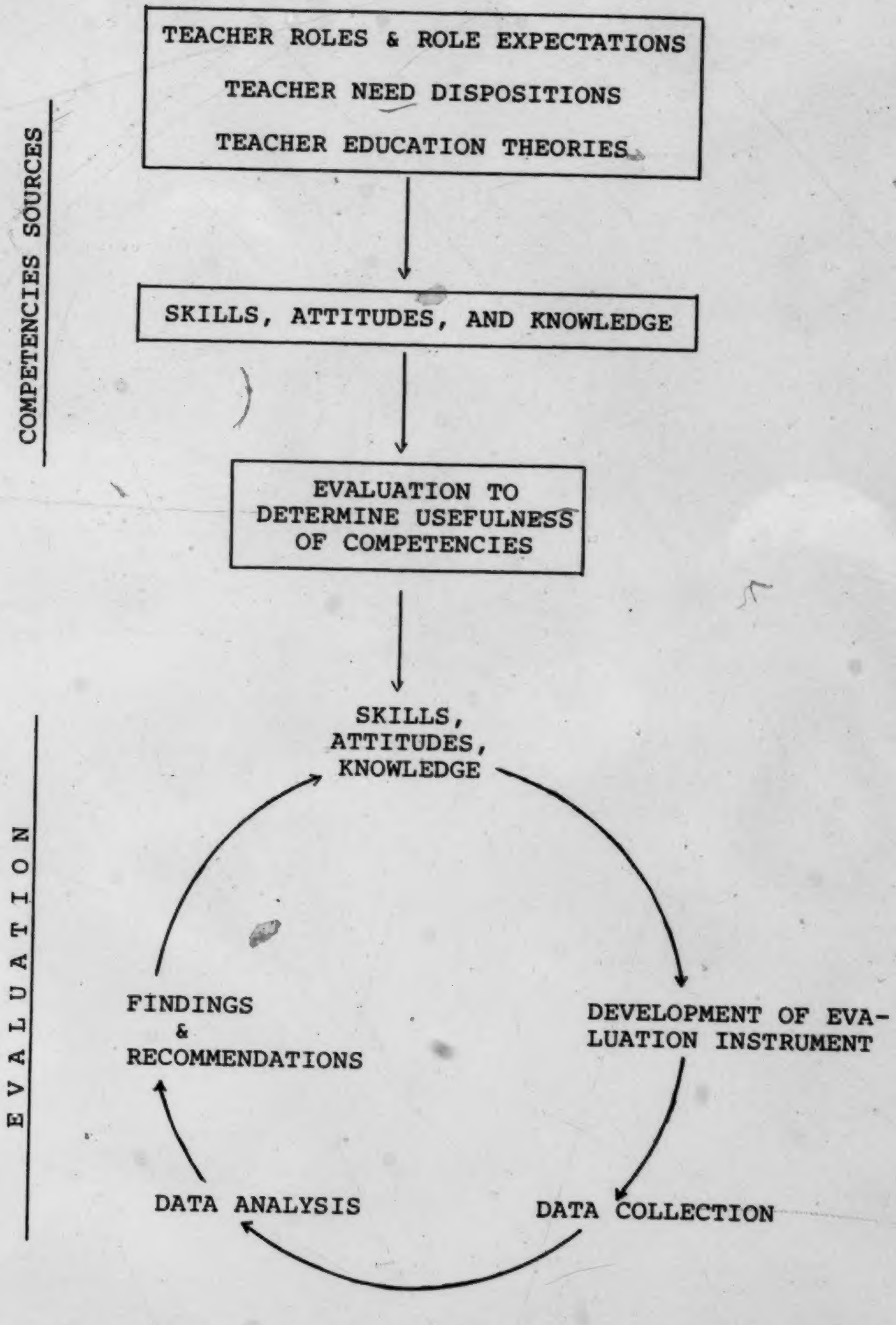
TEACHER ROLES & ROLE EXPECTATIONS
TEACHER NEED DISPOSITIONS
TEACHER EDUCATION THEORIES
SKILLS, ATTITUDES, AND KNOWLEDGE
EVALUATION TO DETERMINE USEFULNESS OF COMPETENCIES
COMPETENCIES SOURCES
SKILLS, ATTITUDES, KNOWLEDGE
DEVELOPMENT OF EVALUATION INSTRUMENT
DATA COLLECTION
DATA ANALYSIS
FINDINGS & RECOMMENDATIONS
EVALUATION

Figure 4. A Diagrammatical Representation of the Research Activities.

CHAPTER III

LITERATURE REVIEW

In the preceding chapter, theoretical conceptualizations of the concepts considered relevant to this study were examined. In this chapter, the issues germane to the central focus of the study are explored. They include: the notion of teacher education as it applies to the general system of education; teacher education for the teachers of allied health professions; effective teaching; and related studies.

Teacher Education

Teaching has long been the respected domain of the very artful and skillful. The potential apprentice of antiquity sought to be indentured to a master craftsman whose knowledge of his trade was unquestioned, and one who possessed those universal qualities that distinguished the "great" teachers from the "ordinary" ones.

Things haven't changed much in our time. We, and especially those of us vested with the responsibility of educational planning and management, continue to devote endless hours and days searching for the "right" teacher for our educational systems and, indeed, for our very own children. The distinction between the great teacher and the ordinary one, nonetheless, is a nebulous one.

Many people within and without the educational system agree that teachers are made, not born. Hence the proliferation of teacher education schools. David Stow, a prominent pioneer of Scottish teacher training, subscribed to the notion of "teachers being made" by observing that only one in fifty of his teacher trainees had a natural genius for teaching, but at the end of a course of training there were only five out of fifty who could not teach efficiently. Crambs (1965), however, while agreeing that teachers are not born, also disagrees with the notion of teachers being made in a mechanistic fashion. The author contends that teachers become "teachers partly as a result of circumstantial drift (process), and partly because of deliberate actions (praxis)." Goldhammer (1981) readily agrees with Crambs. He states that teachers are neither born, nor are they created in university settings. Rather, they are the result of a certain amount of carefully reasoned preparation.

Organized and systematic approaches to teacher education, according to Goldhammer (1981) and Crambs (1965), go back to the medieval universities. It was, it is said, a response to the need to train teachers who could cope with the diverse abilities of children who flocked to the school systems after the democratization of education. Goldhammer argues that so long as education persisted solely for the intellectual elite, there was no need for teacher preparation *per se*. Socrates, the author quips, could amble through the

Agora with his students (intellectual elites) and enter into dialogue with them. That would obviously be impossible in our contemporary classrooms, even at the university level.

Teacher education has been and is still being used as the vehicle for preparing professional teachers for the school systems. As in all professions, this preparation incorporates on the one hand the acquisition of knowledge and the ability to apply it, and on the other the development of the needed repertoire of critical skills, attitudes, and knowledge. In so far as these critical skills, attitudes, and knowledge can be identified, they thus form the "esoteric body of knowledge" or rather "content" of teacher education programs. This in turn becomes the primary source of teacher education curricula.

Grambs and McClure (1964:56) described a typical teacher education program as being made up of the following basic parts:

> (a) General education . . . that part of the students' program which consists of courses and experiences generally provided students preparing for all professions - e.g. arts, sciences, etc. The student learns to communicate with his fellow human beings as a disciplined and informed individual.
>
> (b) Special education . . . that part of the program where the student delves deeply into one area of study or possibly two related areas - e.g. mathematics, physics, social studies, chemistry, music, etc. - [a 'major' and a 'minor'] . . . . This area . . . becomes the area in which the [teacher-to-be] will teach.

> (c) Professional education . . . that part of a student's program where [the prospective teacher] learns the basic knowledge and functions of a professional teacher. Foundation studies (educational psychology, history of education, sociology of education, philosophy of education) and teaching practice are the main focus of this component.

Literature is not devoid of other nomenclature for these basic components. Other teacher education practitioners have used other terminologies to describe the components. For instance, Hilliard (1971) refers to the components as academic study, teaching practice, and educational theory. His description, however, parallels that of Grambs and his associate.

The organization of the three components into a teacher education curriculum too does not vary significantly from one institution to another, or for that matter from one country to another. The number of years expended in the faculty of education may vary but the organization of the components is essentially the same.

In discussing the North American models of teacher education, Haberman and Stinnet (1973) identify four ways of organizing the three components. The first approach is a five-year undertaking, with the first four years being devoted to a liberal arts program--general education and specialization--and the fifth year being devoted to professional education. Figure 5 depicts the approach.

This approach, according to Haberman and Stinnet, has the advantage that "would-be teachers are more natural,

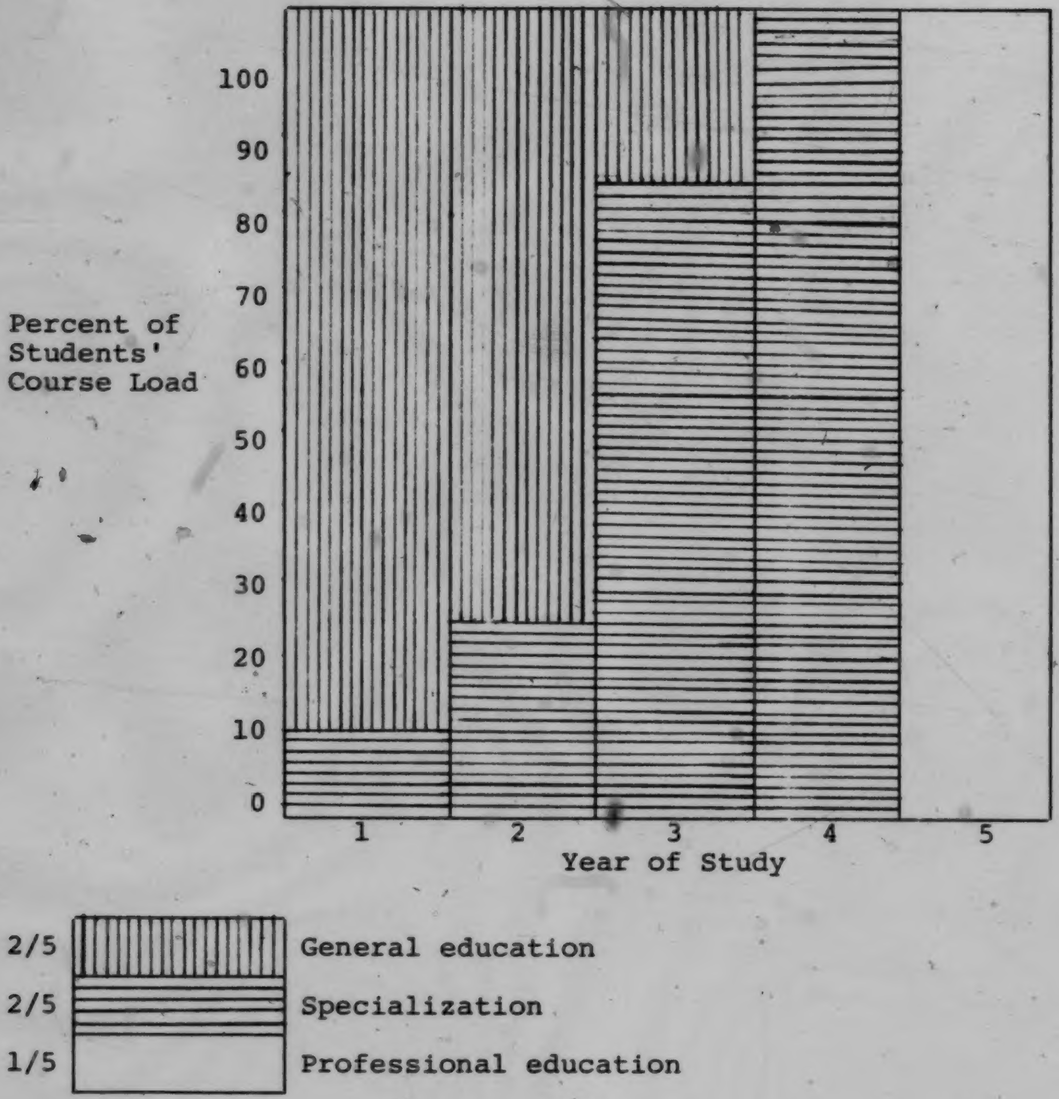

Figure 5 Relationship of General-Special-Professional Education.

have a sound education, and are free to devote full-time to a professional year" (p. 86). The disadvantage is that professional studies cannot be integrated with students' general and liberal studies.

The second approach represents a typical teacher education program. It indicates an integration of professional education right from the beginning, a factor which makes it more appealing to teacher educators. It is, however, criticized for its smaller emphasis on general and liberal courses (see Figure 6).

In the third approach, the focus for the first two years is general education. Specialization and professional education components occur in the third and fourth years. This concentration is said to be contributory to certification of less devoted teachers. Figure 7 depicts the approach.

The fourth approach depicts a five-year program. It is a balanced program in that it involves integration of general, liberal, and professional studies at every level. The length of time it takes, too, ensures an in-depth coverage of the three areas. It is, however, an expensive exercise and not many educational systems could afford it. Also, a program of this length can discourage less affluent students from entering teaching (see Figure 8).

These approaches are obviously not exhaustive. They nonetheless do provide a general overview of the organization of teacher education programs. A general consensus on the distribution and concentration of the three areas of study,

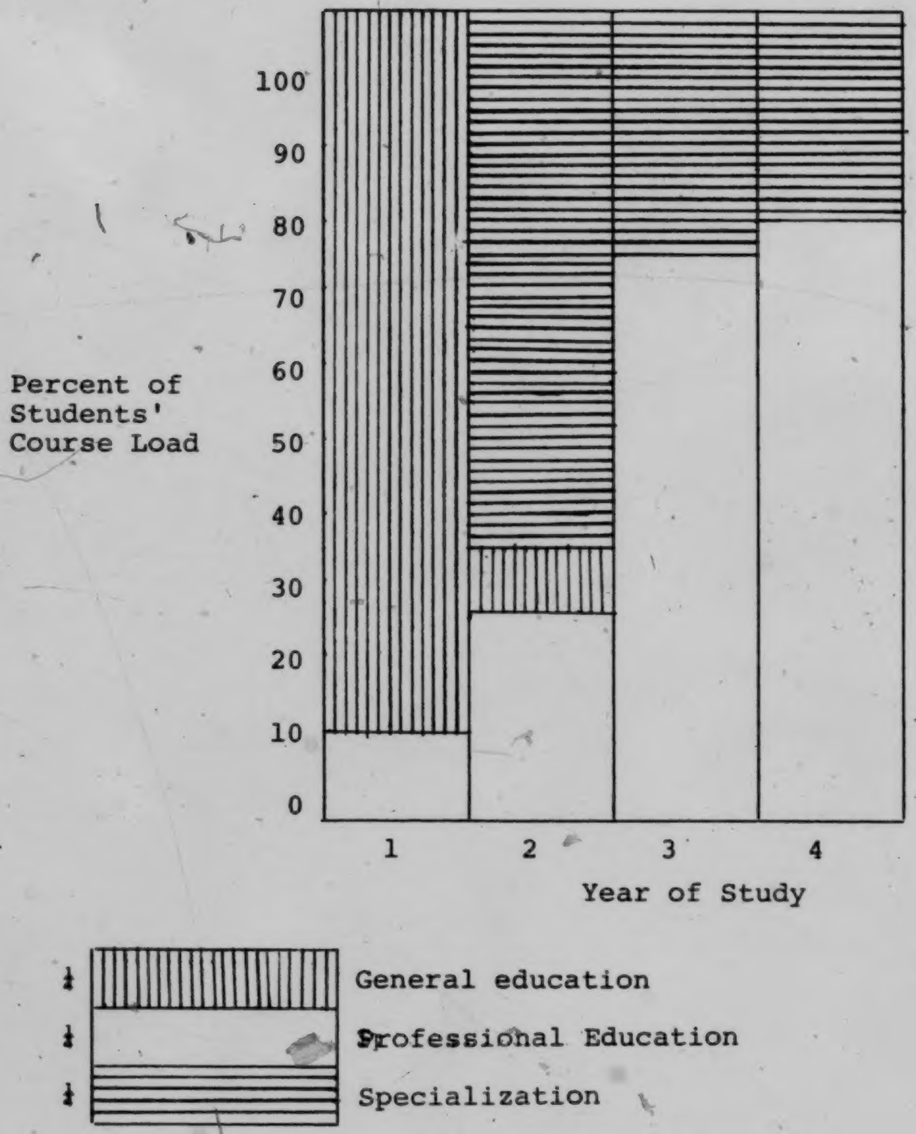

Figure 6 Relationship of General-Special-Professional Education.

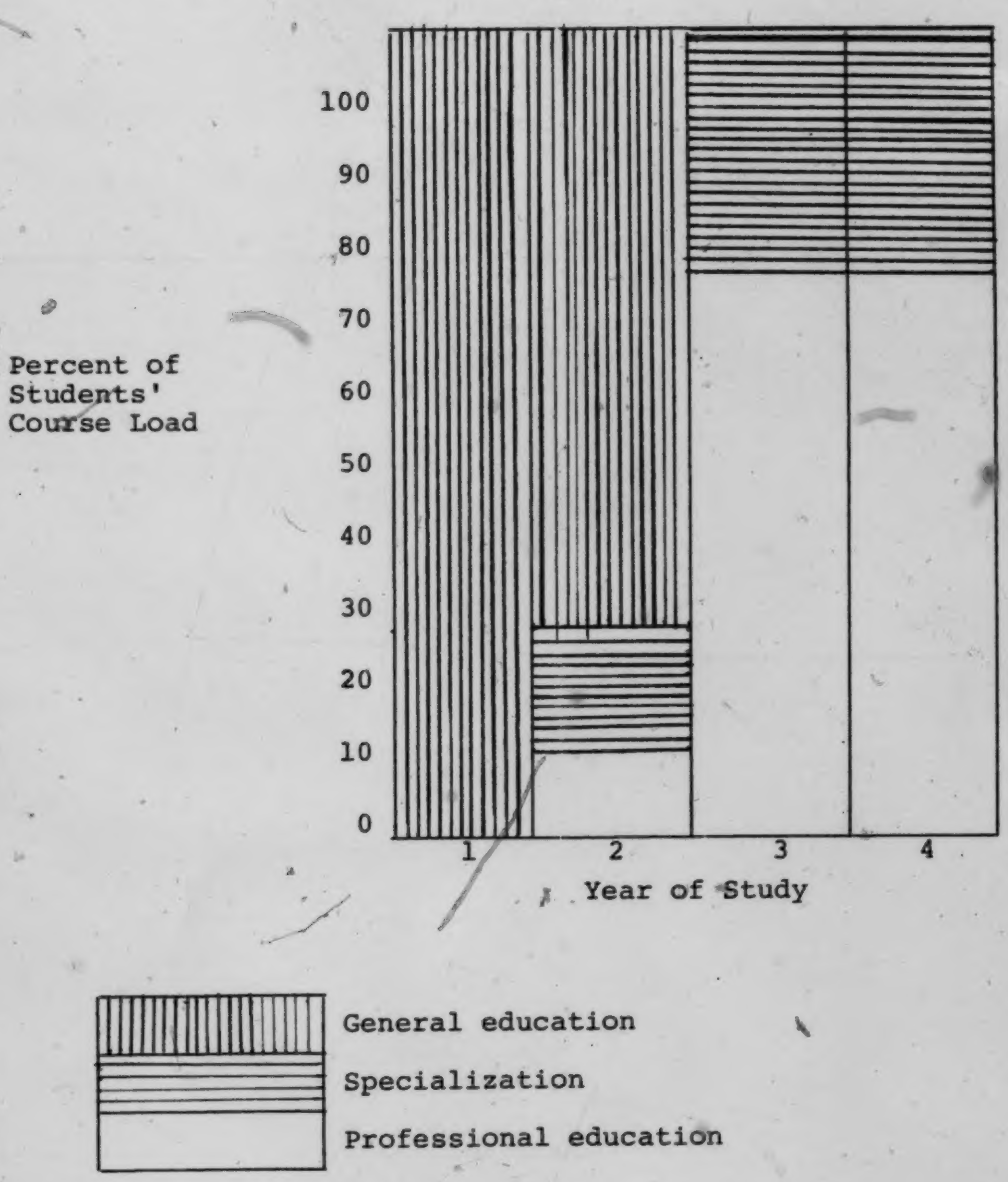

Figure 7 Relationship of General-Special-Professional Education.

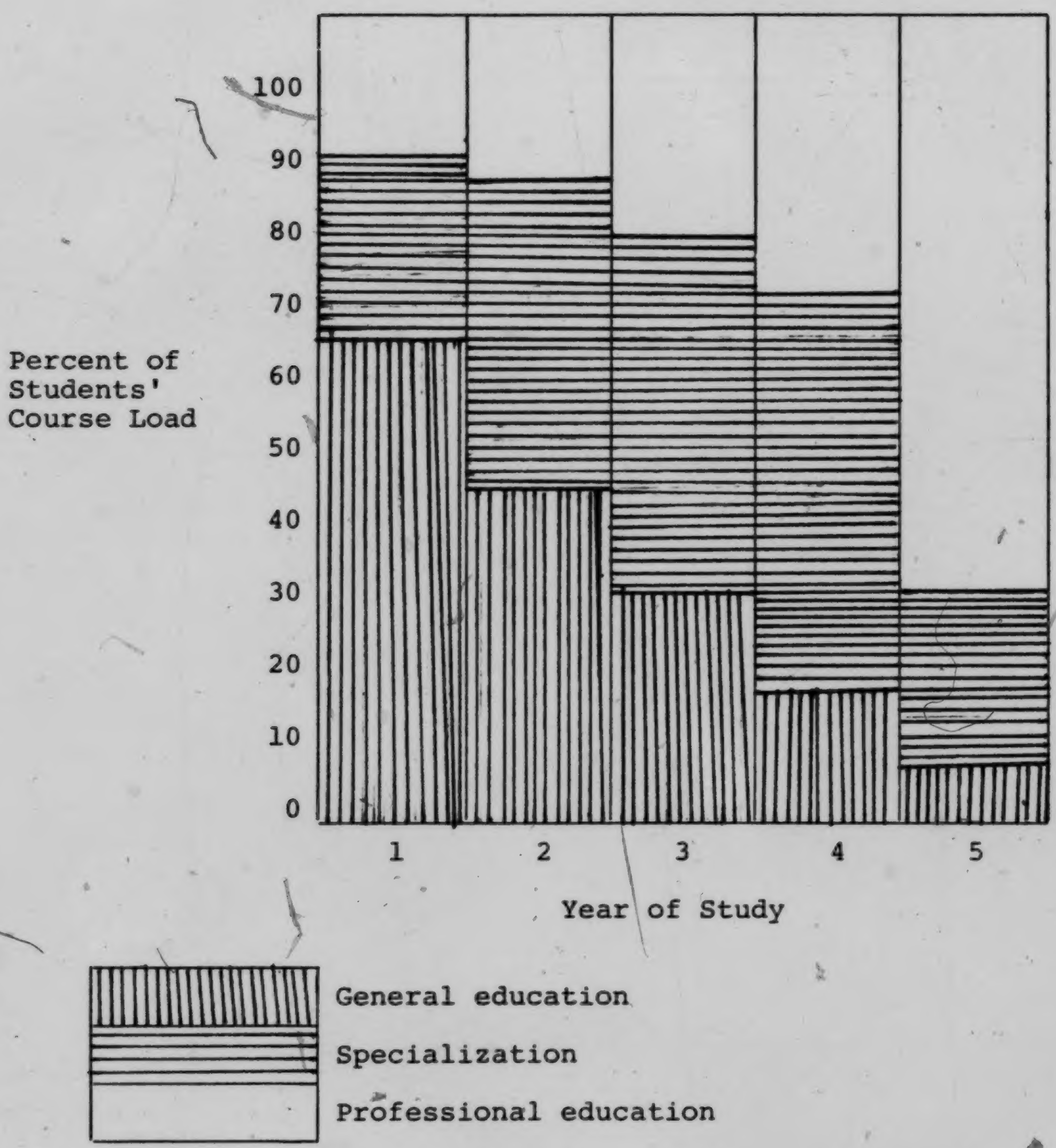

Figure 8 Relationship of General-Special-Professional Education.

however, has not been forthcoming. Some teacher educators prefer to emphasize the professional component. Others prefer the general and/or special education concentration, and still others prefer a mix in equal proportions of the components. The latter group forms the typical teacher education school.

The teacher educators who identify with the general and/or special education concentration cohort are dubbed "subject matterists." They are accused of portraying "pedantry, academic stuffiness, and narrow specialization and traditionalism" (Snyder, 1952:243). The "educationalists" (those educators who profess the sanctity of professional education) are not free of attack either. They are said to:

> Understand the nature of human growth and development . . . and recognize the needs of each stage of maturation, but are so lacking in basic knowledge of arts and sciences that they can do little to satisfy the needs they recognize. They know the "how" but not the "what." (Snyder, p. 444)

This scathing attack is not limited to the colleagues of "educationalists," i.e., "subject matterists" alone as Friedenberg (1973:31) reveals. The author notes that "educationalists" are looked down upon even by their other colleagues in university faculties because they are thought to have no subject matter uniquely their own, except for the tricks of the public-school trade." They have "no unique sociological insights or concepts . . . . No unique psychological principles . . . . [And even] some of the philosophical problems raised by education itself [belong to] the classic specialty within academic philosophy" (p. 31).

The accusations and counter-accusations go on and on. Each cohort claims to be making a point, however obvious and trite. It is indeed a contest of no winners. Perhaps these cohorts should reconcile their trivial differences and take Snyder's advice that, "The gap between academic and professional minds" be bridged in order to effect production of teachers of the desired calibre.

Teacher education programs, however, as several enlightened observers note, tend to be characterized with failure even when efforts have been made to include the two dimensions, i.e., the general/special education and the professional education dimensions. These observers concur that the failure is a consequence of the diversity of opinions as to what should be taught. Conant (1963), among many others, is of this feeling. The author notes:

> Professors of education have not yet discovered or agreed upon a common body of knowledge that they all feel should be held by school teachers before the student takes up his first full-time job. (p. 141)

Consequently, most of what is taught in these institutions was, in Conant's opinion fraught with flaws. Koerner (1965: 16) alluded to the American teacher education process as "miseducation." This could be true of most teacher education programs.

Irrelevance is another popularly claimed characteristic of teacher education programs. A general feeling that what is dealt with in teacher education programs and what is actually demanded of teachers in the "real teaching situation" is incongruent, exists among many critics of these programs.

McDonald (1970), for example, claimed that what was taught in most teacher education programs lacked functional value. He continued to say that the ideas guiding teacher education programs were not evidence, but "an untidy melange of traditions, the untrustworthy anecdotes of experience and insights" (p. 1). The resultant product of this "untidy melange" is a concoction of "pathetic mickey-mouse course work" in pedagogical theories and even theorizing, philosophy of education, sociology of education, etc. This is further exacerbated by having the courses presented by professors who are pseudo-specialists or have little mastery in the disciplines, thus making the treatment of the courses an insult to the discipline concerned and a mockery to the whole process of academia.

To counteract this gross irrelevance, Ryan (1970: 187) proposes a process of teacher education which is existential and experiential in nature. He observes:

> The prospective teacher should have many opportunities to study and practice the skills and strategies of teaching, and he should have real encounters with . . . students.

This author goes on to suggest a closer linkage between teacher education institutions and schools, and to deplore the current practice whereby the teacher education institutions act as "distant producers of teachers, and public schools as uncritical consumers" (p. 187).

Ryan, in effect, is proposing and indeed advocating a more systematic approach to practice teaching, that supervised teaching carried out in schools. Olaitan and Agusioba

(1981) describe teaching practice as:

> Guided teaching in which the student teacher assumes increasing responsibility for directing the learning of pupils over a specific period of time.

It involves the assignment of the student teacher for a period of time to a master teacher, usually referred to as a cooperating teacher, who is on the regular staff of the school. During this time the student teacher is observed at intervals by a supervising teacher from the faculty or school of education in which the student is enrolled. The apprentice (student teacher) starts out by observing or acting as an aide to the master teacher and is expected to, later on after assimilating some skill, to take over the class and teach it. The apprentice's performance of the teaching role is constantly evaluated by both the cooperating teacher and the supervisor. The evaluation becomes a part of the student's record.

Teaching practice has been hailed as the most useful, often as the only valuable, part of professional education. Rosseau (1968), in his studies in England, Wales, Scotland, Rhodesia (Zimbambwe) and South Africa, found that over 76 percent of the graduates of teacher education colleges in the four countries prized the practical aspect of their course. Only two to ten percent of the participants valued educational theory. In another study conducted by the National Young Teachers Advisory Committee in the United States, 86 percent of the 560 young teachers studied regarded the teaching practice aspect of their teacher training as very important. Only 45 percent and 31 percent, respectively, regarded educational psychology and sociology of education as important. In Alberta, Riegger's 1974 study of the graduates of the faculty of education (University of Alberta) confirmed the findings of the earlier studies. The participants emphasized "the need for a more extensive practicum, i.e., student teaching, internship and other types of practical experience" (p. 13).

In spite of the acclaim accorded student teaching, the practice has not escaped the critics of teacher education unscathed. It is criticized for being unsystematic and haphazard and in most cases devoid of any commitment on the part of cooperating teachers--the regular classroom teachers of the class in which student teachers carry out their practice teaching (Clarke and Marker, 1975).

Preparation of Teachers for Schools of Medicine and of Allied Health Sciences

A limited perusal of the medical education literature reveals that the medical college teacher, like his counterpart in the general system of education, "enters upon a career [teaching] with neither the prerequisite trials of competence nor experience in the use of the tools of his profession" (Blegen and Cooper, 1950). Ph.D.s and M.D.s, not to mention "professional certification" in some allied health disciplines, have been used almost exclusively as indices of an individual's competence to assume teaching responsibilities.

Service capabilities too have erroneously been equated with teaching capabilities, and have frequently been used as the criterion for recruiting faculty from the pool of practising allied health professionals. From a superficial view of the roles that these men and women assume, nothing is seriously awry. It only becomes a matter of grave concern when one lets one's imagination wander into the wilderness of that massive and complex maze called "teaching." It is only then that one can begin to appreciate the complexity of the act of teaching and to realize that the indices or criteria employed to recruit allied health faculty or, for that matter, faculty for schools of medicine are lacking since they do not ensure that the renowned neuro-surgeon, the highly-rated nursing practitioner, or the ingenious occupational therapist has the ability to teach. Fulop (1973:84) acknowledges: "The fact that one is well versed in a subject does not mean that one is capable of teaching it." A World Health Organization (WHO) study group (1973:6) concurs. The group members note that:

> A solid grounding in the subject matter and competence in research or practice [while] essential for the tasks of teaching . . . are not enough.

And Atwell (1972:162) bluntly and succinctly points out that "allied health faculty recruited from practicing professional ranks . . . have little idea as to how to perform optimally as a teacher."

This view, reinforced by an increasing critical student population, has become a compelling force for various institutions of medical education in rethinking their staffing strategies, training and development. All of a sudden there is a desire to fill teaching positions in these institutions with individuals well versed in professional and educational skills, attitudes, and knowledge. Almost overnight it has become fashionable to have centres of education within medical institutions. At long last, "the society [of health professions] has . . . defined its own future by making up its mind about the education of its teachers" (Lawrence Cremin, 1965).

Teacher education within the medical context, as one may imply from the foregoing, is not an old practice. Indeed the first specific reference to the practice was made in 1951 by a WHO Expert Committee. Even then, it was not until 1959 that the first program was established at the University of Illinois under the banner Educational Research and Development (Miller, 1973:10). Ever since, the World Health Organization has endeavoured to attain the objective of "promoting improved standards of teaching and training in the health, medical and related professions" (WHO Constitution, Article 2) by providing financial and expert support for establishing centres for training teachers of schools of medicine and of allied health sciences.

The primary purpose of teacher education programs for health professions is to "assist faculty members in preparing health personnel who can provide the health care services demanded by society" (WHO Study Group, 1973:8) in a more organized and systematic way rather than in the traditional apprenticeship method which involves modelling teachers one encountered in one's student life, modelling one's contemporaries or one's superordinates. Although this is the oldest form of teacher education--"observation and emulation of the master" (Woodring, 1975)--it has serious flaws when adopted in the field of medical education. It inherently involves trial and error, and to note the obvious, a trial-and-error way of doing things is generally contradictory to the practice of medicine. The establishment of teacher preparation programs is a step away from the primitive and sporadic method of training teachers and a step closer to a more systematic method.

These establishments have become a common phenomenon in many parts of the world. Many individual governments, in concert or consultation with the WHO or by their own initiative, have established these special units within schools of health professionals. Some educational experts wonder why they (educational centres) could not be placed in the already existing educational institutions. By so doing, these experts claim, these establishments could share the existing resources and avoid duplication of courses. The proponents of the program, on the other hand, justify the placing of the programs by pointing out that the programs are able to attract individuals who are: sufficiently familiar with unique problems of health professions education; [and who are able to] address themselves to the issues directly and not merely use experience derived from elementary or secondary education (WHO Study Group, 1973:7). The justification is obviously predicated on the assumption that an educator with a basic training in a health profession is more effective in relating to health professionals than his counterpart from the general system of education. Fülop (1973:8) agrees. He insists that the teachers for these programs must consist of educational specialists with a background in both a health profession and education. This notwithstanding, it is generally acknowledged that the contribution of individuals whose primary training is in teacher education would still be a great asset to these programs.

Six assumptions form the foundation for these programs. First, there is a body of knowledge which is justifiably described as educational science; second, there is need for health professions' educators and trainers to be familiar with that science and skilled in its application; third, the science is worthy of systematic application since it gives promise of increasing both educational efficiency and effectiveness; fourth, there exists serious deficiencies in educational practices, some of which can be corrected by training teachers in sound application of educational principles; fifth, individual teachers would find the results personally satisfying or professionally rewarding; and lastly, there will be an increasing array of practitioners, auxiliaries, and students who participate in the instruction of health professions students as new medical disciplines emerge.

Several goals make up the content of the programs. The educational philosophies and the health related policies of individual countries, however, dictate to a large extent what goals are to be pursued. Nevertheless, goals related to educational planning, program implementation, and program evaluation comprise the "core" of these programs. Several subgoals of these three general goals were enunciated in a WHO Technical Report Series (1973: 10-11):

I. Goals in Educational Planning

- i) define instructional objectives that are consistent with the students' health service role;
- ii) define instructional objectives that are consistent with a school's educational philosophy and mission;
- iii) formulate objectives in terms of final expected student behaviour;
- iv) involve students in the process of defining objectives;
- v) apply accepted principles of adult learning in the design of instructional strategies;
- vi) provide varied learning experiences for achieving objectives;
- vii) seek and use the assistance of educational specialists for planning when appropriate;
- viii) select appropriate content from a large body of expanding knowledge; and
- ix) organize course content in a fashion that is understandable to students.

II. Goals in Programme Implementation

On completion of the teacher preparation programme, the novice teacher is expected to:

- i) use varied teaching techniques (e.g., lecture, group discussions, role playing, case study, individual supervision and educational media) with appropriate skill in situations that capitalize upon their effectiveness in facilitating learning; and
- ii) make a commitment to self-assessment through peer review or student feedback.

III. Goals in Programme Evaluation

Upon completion of the training, the novice teacher will have the ability to:

i) utilize diagnostic as well as certify evaluation procedures;
ii) select or construct evaluation procedures that assess knowledge, attitudes and skills;
iii) use and interpret the results of standardized tests;
iv) identify in the literature areas for personal study in medical education; both for himself and for students; and
v) understand basic statistical concepts that facilitate communication.

These goals, needless to say, are the proverbial "tip of the iceberg" for subsumed under them and others conspicuously missing from the list are several specific objectives of the programmes. One must extrapolate from these general goals the specific functions of the teacher preparation program for the teachers of allied health professionals.

The learning experiences designed to facilitate achievement of these general goals and the implied specific goals vary with the setting, availability of resources, and cultural influences. However, there exists an agreement that the appropriate content for these programs should include:

> (a) Principles of learning: an understanding of how adult learning occurs . . .
> (b) Curriculum construction: [an understanding] of the principles for the organization of all those factors that facilitate achievement of educational objectives . . .
> (c) Teaching methods, instruments, and educational media: . . . assures that participants gain an understanding of, and skill in employing, a variety of instructional methods and instruments . . .
> (d) Assessment of achievement: [an understanding of] methods of assessment . . .

> testing the achievement of individual students; assessing the accomplishment of teaching staff and instructional programs; and the application of basic statistical concepts. (WHO Study Group, pp. 11-12)

The content is delivered mainly in the following forms:

1. One-year programs leading to a Master's Degree in Medical (or Health Personnel) Education;
2. One-year programs leading to a Diploma in Education (Health professions); and
3. Two to eight-week workshops or seminars for on-the-job training for teachers.

Most developing countries opt for the least expensive form, i.e., workshops or seminars for on-the-job training. However, Kenya opted for the one-year program leading to a Diploma in Education (Health Professions).

Effective Teaching

It will not be in vain to emphasize the point that the overall purpose of any teacher education program is to foster those skills, attitudes, and knowledge (competencies) that assist teachers-to-be in acquiring the attributes of effective teachers. What is often in vain is to attempt to develop a generally accepted list of specific attributes, a cookbook for effective teaching, so to speak. This is simply because good teaching, like any other disjunctive concept, is very elusive. The attributes of good teaching, to paraphrase Sanders (1972:18), do not form a "unitary trait," and even if they did, their effectiveness would be dependent on the nature of students to be taught and the general culture of the society at large.

Teacher effectiveness seems to mean different things to different people. "To the parents it may merely mean the extent to which their offspring receives the grades they think he should receive" (Cline, 1977:60). To some students it may mean the teacher's ability to reproduce text-book contents unerringly. To others, it may be the degree to which the teacher is flexible, impartial, and empathetic. But to the principal or to the inspector of schools, it may be none, all, or a combination of some of the above attributes.

Effectiveness of teaching has been, despite the lack of agreement on the meaning of the concept, a matter of concern on all levels of education. This is reflected by the wealth of writings and research efforts directed toward determining what constitutes effective teaching.

As early as 1929, Barr, in an effort to determine what teacher characteristics were most highly valued by supervisors and administrators, analyzed 209 teacher rating scales (p. 2). He found that good teachers as compared to poor teachers tended to be more vigorous, more enthusiastic and happier, more emotionally stable, more pleasant and sympathetic and displayed a keener sense of humour. Jobwise, the search revealed that effective and ineffective teachers differed in such areas as classroom management, instruction, professional attitude, knowledge of subject matter, and personal habits and discipline.

Using the critical incident technique, Jensen (1951) sought to determine the behaviour patterns of good and poor teachers. He asked supervisors, teacher educators, student teachers, public school teachers, and principals to think of outstanding examples from actual experience of teacher competence and incompetence. From the reports of these persons, a set of critical behaviours that seemed to differentiate effective from ineffective teachers was formulated. The set consisted of three types of critical behaviours: personal qualities, professional qualities and social qualities.

On the personal dimension, effective teachers as opposed to ineffective ones exhibited such characteristics as alertness, cheerfulness, fairness and impartiality. They had a tendency to exhibit self-control in times of crisis; they liked fun and had a good sense of humour; and they readily recognized and admitted their own mistakes. In terms of professional qualities, they (effective teachers) were able to stimulate students, were clear and thorough in giving directions, could invoke disciplinary measures in fair and dignified ways, and were always willing to help and guide the students. The positive qualities also dominate the social dimension; for example, effective teachers were usually sympathetic, democratic and courteous, generous and reinforcing.

Ryans' (1960) study of characteristics of teachers was wider in scope and magnitude. It was comprised of several studies and was done in a space of seven years by a team of researchers. The findings were congruent with those of earlier and later studies.

In their bid to develop a teaching effectiveness instrument, Wotruba and Wright (1975) reviewed 21 studies in an attempt to obtain a representation of effective teaching criteria. Out of the 42 criteria identified, 11 characteristics were mentioned with a frequency rate of 85 to 25 percent. These were:

> Communication skills - interprets abstract ideas and theories clearly;
> Attitudes toward students which are favourable;
> Knowledge of the subject;
> Good organization of the subject matter and course;
> Enthusiastic about the subject;
> Fair in examinations and grading;
> Willing to experiment - flexible;
> Encourages students to think for themselves;
> Pleasant personality or personal appearance;
> Interesting as a lecturer - good speaking ability;
> Instructor as a "worthwhile" human being;
> Respects student opinion and is tolerant to student disagreement;
> Researcher - scholarship activities;
> Self-controlled, cooperative, patient;
> Effective use of questions in class discussions;
> Has a variety of interests; and gives clear assignments. (p. 56)

Hildebrand (1977) identified several characteristics that purportedly distinguished the good from the poor teacher. The characteristics clustered under four categories, viz: analytic/synthetic approach; organization/clarity; instructor/group interaction; and dynamism/enthusiasm. The competencies thereof include those identified by several other investigators (e.g., Oliva, 1972; Henson, 1974; Hamachek, 1969; Pigge, 1978; and Campbell, 1981).

The study conducted by Jacobson (1966) is of great significance to this study in that it is the only one encountered in the literature, that sought "to identify the effective and ineffective behavior of teachers" of a paramedical profession. The critical incident technique was used to profile the behaviours.

Jacobson asked nursing students to describe effective and ineffective teaching incidents in a 50-minute period of time. Out of the 1,182 critical incidents identified, 58 critical requirements for teaching of nursing were derived by content analysis, categorization and final review by three judges. These requirements were placed in the following six major categories: availability to the students, apparent general knowledge and professional competence, interpersonal relationships with students and others, teaching practices (mechanics, methods, skills) in classroom and clinical areas, personal characteristics, and evaluation practices (pp. 221-222). The study, however, has some flaws. It can be challenged on two grounds, viz, the subjectivity of placing the 58 behaviours into the six categories, and the generalizability of these findings. The findings nonetheless indicate that the requirements of effectiveness of teaching in the allied health professions are not very different from those of the general teacher. This reinforces the notion of the "universality" of effective teaching behaviors.

The notion of universality is enhanced further by revelations from studies conducted outside the realm of the so-called developed nations. One such study, conducted in India by Arora in 1978, deserves some attention.

The main objective of Arora's study was "to find characteristic differences between effective and ineffective teachers" (Arora, 1978:17). To attain this objective, the author developed a profile of an effective teacher by consulting with a large group of practitioners considered competent in providing valid opinions on the subject of "effective teaching." The profile was ultimately used as the basis for an instrument on which principals identified effective and ineffective teachers. Twelve indispensable characteristics were identified from the analysis of the data collected. These were stated in an obligatory form, i.e.:

> An effective teacher must
> (1) have accurate knowledge of the subject;
> (2) have ability to bring the subject matter to the level of students' understanding;
> (3) explain topics clearly;
> (4) make clear presentation of the subject matter;
> (5) Organize subject matter systematically;
> (6) Have self-confidence;
> (7) Have ability of expression;
> (8) Have skill in stimulation of interest and motivation of students;
> (9) Have sense of duty and responsibility;
> (10) Have pleasant and distinct voice;
> (11) Plan and prepare his lessons; and
> (12) Have good health. (pp. 31-32)

Overall, the characteristics identified by Arora form the picture generally presented by studies conducted in other environments. This finding, to reiterate the obvious, underscores the notion of the universality of the characteristics of effective teachers.

The studies discussed thus far provide a global repertoire of generic characteristics of effective teaching. The findings, however, do not indicate or even claim any relationships between these characteristics and student achievement. This failure has made the studies and indeed the persons who conducted them vulnerable to all sorts of criticisms. Rosenshine and Furst (1971:40), for instance, castigated such educational researchers for not providing teacher educators with repertoires of teaching skills which might confidently be recommended to prospective teachers as liable to promote student achievement. For their part, they (Rosenshine and Furst) identified ten characteristics which they claimed were positively related to student achievement: clarity, variability, enthusiasm, task orientation, student opportunity to learn, use of students' ideas (indirectness), use of structuring comments, use of multiple levels of discourse, probing and the use of appropriate levels of difficulty in instruction (p. 54).

In a similar study, Medley (1977) reviewed 289 studies. To introduce rigor in the study, this investigator applied four criteria for admissibility of studies of effective teaching for review: (a) effective teaching was measured in terms of student gains; (b) clear descriptions of teacher behaviors were given; (c) generalizability of findings were established; and (d) findings were revealed as important in terms of strong process-product relationships (1979:16-19). Some 600 relationships pertaining to the behaviours of effective and ineffective teachers were identified.

In spite of the rigor introduced in the study, the findings of Medley's study did not present any major breakthrough in the study of effective teaching. However, differences in the manner in which effective and ineffective teachers use classroom time, organize for instruction, and maintain an instructional environment, among other things, were noted. In addition to these findings, Medley also noted that behaviour patterns of effective teachers differed according to the socio-economic status of the pupils. The implication of this last finding is that teachers-to-be should develop a potential for adaptability to cope effectively with students from all kinds of backgrounds.

Such studies as Rosenshine and Furst's and Medley's, commonly alluded to as process-product relationship studies, are no doubt more enlightening than studies that seek to evaluate traits of effective teachers, or studies that solely scan teacher ratings to identify relevant characteristics of effective teaching. However, the validity of the inherent and implicit assumption that student achievement is a function of the teaching process alone must be questioned. Teaching is but one among the many factors that operate to produce changes in pupil growth and achievement. Such factors as the home, intelligence, associations, media of communication, and community are just a tip of the "pupil-achievement iceberg."

What the proponents of process-product relationship studies can rightfully claim is that these studies have helped validate a few characteristics of effective teaching exposed through trait and/or teacher rating studies. Any other claims are yet to be justified through research or any other form of valid documentation.

In summary, it is clear from the studies explored that there is indeed a repertoire of skills, attitudes, and knowledge necessary for effective teaching. But since this repertoire is extensive to the point of infinity, it would be impossible to include all the elements in a feasible study. Therefore, to accomplish the purpose of a study such as this one, i.e to assess the adequacy of a teacher preparation program, one would inevitably be limited to only those effective characteristics which appear consistently in effective teaching studies, be they trait studies, teacher rating studies, or process-product relationship studies. Herbert's (1971) advice that researchers gathering evidence on the value of teacher education programs seek data on client satisfaction and testimony of supervisors and peers, among other sources, could not be more appropriate.

Related Studies

The recency of teacher education programs for the teachers of allied health, it has been pointed out elsewhere, only partially explains the lapse in systematic evaluations of the programs. Other limitations and/or problems known to hamper evaluative studies in the general system of education may explain the variance. Ornstein (1972:294-95) delineated twelve problems/limitations encountered in attempts to undertake such studies:

1. Many of the participants and staff members lack knowledge of sound evaluation procedures.
2. Most teacher-training evaluation is based on informal methods, opinions, and suggestions.
3. Standardized and nonstandardized tests were not developed to show reliable differences in scores over a short period of time in a teacher-training program.
4. Many important variables and relationships that affect the program may go unnoticed because the evaluation is usually concerned with broad generalizations and suggestions.
5. Either because of politics or disinterest, staff members may support unsound views of the program directors; and participants, of the staff. On the other hand, there is no guarantee that the director will allow the staff and participants to help evaluate the program. He may simply ignore them.
6. The director or staff members who are responsible for the evaluation report(s) may tend to be dishonest about obvious weaknesses or disguise them in order to protect themselves.
7. There is no guarantee that changes will be made as a result of the evaluation report(s).
8. With the exception of accreditation policies, teacher training programs are rarely evaluated by an outside agency.
9. Once a program is developed on paper and put into operation, there is little enthusiasm for making modifications unless there is a pending crisis or obvious problem.
10. Evaluation results may reflect the biases and knowledge of the original groups involved in the development of the program.
11. There may be a premature evaluation of the program before it is fully operational.
12. There is a tendency to misinterpret tentative findings as proof.

Notwithstanding the problems and limitations of program evaluation, evaluative studies within the context of general education have continued to multiply inexorably. The teacher education programs for the allied health teachers, on the other hand, remain untouched by this wave. Hence the studies discussed in the foregoing, save one, are primarily drawn from the general system of education.

Several evaluation models which differ mainly in methodology and focus are evident in the literature. Indeed there is a general tendency for schools/faculties of education to espouse particular evaluation models. The Maryland Teacher Education Centre, for instance, makes use of the Stake Countenance Model of evaluation (Greenberg and others, 1972); the University of Montana's School of Education uses "Career Satisfaction Criteria" (Jay, 1968) to evaluate its teacher education program; and the University of California at Berkeley focuses on the achievement of the objectives and competencies, on the ongoing processes by which objectives are achieved, on the unplanned outcomes, and on the background of students (Marshall, 1974).

A few studies related to this one in methodology and focus are discussed in the subsequent few pages.

A comprehensive evaluation of three teacher education programs in the province of Alberta, Canada, was conducted under the auspices of the Alberta Teacher's Association (A.T.A.) in 1974 by Rieger. This study used a four-part procedure to procure the necessary data. Of the 354 teachers invited to participate, 116 completed the first part, and 73 completed the final part.

The first part sought opinions about the parts of teacher preparation which the participants found most valuable and least valuable in the light of their teaching experience, and what items, if any, were lacking in their preparation but which they believed should have been included. About 40 percent of the 300 statements of most valuable parts referred to student teaching, internship and other types of in-school experience. Of the 200 statements indicating least valuable items, the most frequently mentioned were courses in educational foundations. And the 100 suggestions for the items that should be included reflected a need for more instruction in classroom discipline.

The totality of the part one results was condensed to 37 items which formed the instrument for part two. In this procedure, the participants were asked to indicate: (a) whether the items listed were included in their preparation; (b) whether they were adequately dealt with; and (c) whether they were valuable to them personally. Rieger (1974:1) summarized the findings thus:

> Two-thirds of the respondents said that courses in educational psychology and general education were included and given adequate time and emphasis; about half said student teaching was included but not given enough time or emphasis; over two-thirds said a course in leadership was missing but should have been included. About half the participants rated student teaching as most valuable and about one-quarter rated courses in educational foundations and courses in educational administration as "of little or no value."

Part three was, it appears, an attempt to determine if the participants were steadfastly firm on their opinions or if they could be influenced by the responses of their colleagues. The sample for this procedure included half of the first-year teachers and half of the fifth-year teachers.

They were all supplied with percentage responses of the whole group on each item and asked to reconsider their responses in this light. "A total of 123 changes were made in ratings of availability and adequacy and 131 changes were made in value rating by the 84 participants" (Rieger, p. 10).

The instrument for part four of the study was a product of parts 1, 2 and 3. The ten aspects or parts of preservice teacher education which were deemed to be in need of improvement comprised the instrument. The "participants were asked to rank the items in order of their need of modification or improvement." Three aspects, namely: (a) instruction in identifying and dealing with pupil problems; (b) student teaching; and (c) instruction in classroom management, were ranked highly. On the low dimension, courses in educational foundations and/or educational administration, instruction in school routines, and courses in audio-visual methods and materials were listed.

In spite of the diversity of evaluation procedures, focus, and size and composition of the samples, Rieger's findings were consistent with other findings of earlier studies, (e.g., 1961, 1964, 1971) all conducted by or under the auspices of the Alberta Teachers' Association. This consistency was indicative of the serious shortcomings of the teacher education program in the province, which for a decade or so had been ignored despite the numerous revelations.

Rieger's study must be commended for the rigorous evaluation approach employed. The writer avoided the "one-shot questionnaire approach" and instead adopted a higher level of evaluation sophistication in the design and implementation of the study. He must not, however, be allowed to escape criticism for ignoring other stakeholders in teacher education programs.

Another study related to this one was conducted by Rosser and Denton in 1977. The study sought to determine the quality of a teacher preparation program using a sample of 212 1973-1974 graduates of the teacher preparation programs conducted under the aegis of the College of Education at a land grant university in the U.S.A. Using two Likert-type scales referenced to a single item, information relating to the worth of different instructional components (importance scale) and the quality of instruction provided for that unit (effectiveness scale) was sought from the graduates and their supervisors. The findings revealed a discrepancy between what was being presented and what should have been stressed to prepare graduates for the classroom.

Rosser and Denton's approach, unlike that of Rieger, uses combined ratings of two stakeholders of the program. This approach, like others focusing on a number of program constituents to evaluation, widens the scope of the study. This in turn increases the representativeness of the results.

The findings did uncover some major discrepancies between what was being offered in the preparation program and what teachers felt should be stressed. The most significant discrepancies were observed in areas of: (a) classroom control where 96 percent of the respondents rated these competencies as important or very important (only 20 percent rated their program as being effective or very effective in providing these skills); (b) evaluation skills . . .; and (c) interpersonal relations. These findings show that this teacher education program was not addressing itself to the needs and desires of the clientele and/or their future employers. The stakeholders of the program perceived it as being ineffective.

Brehaut and Gill (1977) reported the findings of an evaluative study conducted in the province of Ontario, Canada. The study was commissioned by the Ministry of Education, Ontario. Data were obtained through questionnaires from 394 elementary school teachers.

A substantial proportion (56.8%) of the study participants considered their preparation to be either "less than adequate" or "poor" (1977:6). Only a small proportion (6.4%) rated their program as "excellent" or "more than adequate" (p. 6). However, a large majority (88.3%) were either "very satisfied" or "satisfied" in their present teaching position.

This later finding--satisfaction with the teaching position--appears to contradict the conventional wisdom of "career satisfaction" criteria of evaluation vehemently espoused by some evaluators. The negative relationship between the quality of preparation and career satisfaction evidenced in this finding implies that one cannot determine the merit of a teacher education program, with any degree of precision, from an index of career satisfaction. The two indices appear, at least in this study, to be independent of each other.

Within a developing world context, Haque (1977) conducted an evaluative study of teacher education programs in Bangladesh to ascertain:

> The relevance of curricular offering of the teacher education programmes of Bangladesh, in order to identify the strengths and weaknesses of the programmes, the practices and ideas and contents so that a rational basis for improvement of the curricula could be discovered. (p. 107)

Using data from document analysis, questionnaire surveys of faculties of training institutions, and of graduates of programs, Haque concluded that the programs were neither effective in realizing their objectives nor were those objectives consistent with the country's development needs (p. 111).

This study is important in that it provides an overall picture of the "state of affairs" in evaluation of teacher education programs in developing countries. It also puts into perspective the need to determine the appropriateness of teacher education objectives as they relate to the realities of the environment which the program purports to serve.

In another Alberta study, Ratsoy, McEwen, and Caldwell (1979) sought to profile the basic skills required for effective performance of teaching and to assess the extent to which the teacher preparation program at the University of Alberta assisted its graduates in developing these skills. A list of 24 skills was generated from the literature and the faculty members of the Faculty of Education. The list was categorized into six skill areas, namely: managerial, curricular, methodological, interpersonal, ecological, and evaluative.

The teachers' assessment of their university education was indicative of a rather mediocre program of studies. The ratings "tended to fall between adequate and poor" for most of the skills listed and, in all, only three skills had means of 2 (for well), and 3 (for adequately). These were: specify objectives, question, and utilize media (Ratsoy et al., p. 48). Among the many findings, classroom management and interpersonal skills were viewed as being poorly handled, while methodology and curricular skills were thought to be adequately dealt with.

In discussing these findings, Bethel (1981) noted that they were similar to those encountered in other studies. They are a blatant exposure of the persistent gulf which exists between the expectations of the clients of teacher education programs, the faculty of education course offerings, and the real environment of the teaching job. This discrepancy seems to be a chronic problem of teacher education programs, one that makes almost all programs look miserably ineffective.

One study which bears a closer relationship to the present study than the studies discussed in the foregoing was conducted in 1979 by Holcomb, Ponder, Evans, Roush and Buckner. It is entitled, Preparing Faculty for the Allied

Health Professions: A Follow-up Study of Program Graduates. According to Holcomb et al. (1980:43), the study was designed to gather data relative to the following questions: (a) Are the graduates of the program from a variety of allied health disciplines?; (b) Have the graduates become faculty members in their disciplines? If so, in what academic settings have they found employment?; (c) Has the program produced administrative leaders for academic programs?; (d) Has the program been able to attract students from minority ethnic groups?; (e) Has the program been a regional and/or national resource for allied health faculty?; and (f) Are the graduates satisfied with their present positions? The answers to these questions were to the affirmative, meaning that the program under study was effective. But was it?

In the writers' narrow conception of effectiveness of the program, no one can argue that the program was not effective. After all, ten allied health disciplines had benefited, 59 percent of the graduates held faculty positions, six and 18 graduates held the positions of chairpersons and program directors, respectively, 10.5 percent of the graduates were black, graduates were residing in 17 states, and the majority of the graduates were satisfied with their positions. However, this interpretation of program effectiveness must be taken "with a grain of salt" since this evaluation process focuses wholly on very global goals of the program. Nonetheless, the study is important in that it is a pace-setter in this field of study.

A second study conducted in the context of developing countries was done by Bethel in 1981. She attempted to:

> Discover the extent to which teacher education programs in the Bahamas were perceived as being effective in providing prospective teachers with the competence needed for successful performance . . . . [And] the specific areas of strength and possible weaknesses in the program. (Bethel, 1981:v)

Data were obtained through a questionnaire and a semi-structured interview from 37 (28 primary school, and nine junior secondary) teachers who had recently graduated from teacher education programs at the College of Bahamas and their immediate supervisors. The respondents were asked to provide their perceptions of their performance of their jobs and of the adequacy of their preparation in 37 competencies. The competencies had been derived from the literature and validated by the faculty of the College of Bahamas and "other educational practitioners" (p. 124). The immediate supervisors were also asked to rate the performance of the teachers on these items.

The results of the study showed that, in general, teachers were happy with their preparation--"[the] mean ratings of their preparation fell between 4 (well) and 5 (very well) on the five-point scale for twenty-three of thirty-seven behaviours" (Bethel, 1981:221). The poorly rated items received a mean of 3.92. On the performance scale, both teachers and supervisors perceived their (teachers') performance as satisfactory.

The specific areas of strength identified were those related to "the preparation for and presentation of lessons, and the effective management of the classroom. Weaknesses were perceived in the preparation offered in diagnostic and remedial skills, interpersonal relationships, and administrative aspects of teaching" (p. vii).

Summary

In this section of the chapter, a few studies related to this one in methodology or otherwise have been discussed. Attempts have been made to delineate their strengths, weaknesses, similarities, and differences.

These strengths, weaknesses, similarities and differences notwithstanding, the findings exhibit a consistent "state-of-affairs" in teacher education programs, no matter the context. For instance, a general tendency to value the practical aspects of teacher education and to denounce the utility of foundational studies is clear.

Also, most of these findings are characterized by a great divergence of opinion among the participants. Consensus on what aspects of teacher education are "of value" or "of no value" is lacking in the majority of these studies.

This in itself prevents evaluators from drawing any conclusions regarding program effectiveness. Instead they may be content to discuss the strengths and weaknesses of the program.

CHAPTER IV

RESEARCH DESIGN AND METHODOLOGY

The primary objective of this study was to determine the effectiveness of a health allied teacher education program in the Republic of Kenya. As a first step toward this endeavour, various research designs normally utilized in the evaluation of educational programs were examined. The researcher hoped to discover a suitable design or designs which could be adopted for this study.

The traditional "treatment and control" design was found to be impracticable. Herbert's design, which utilizes direct observation of classroom teaching data, among other sources, was discarded due to anticipated insurmountable constraints of distance, time, and finances. The graduate follow-up design which utilizes interviews, site visits, etc., was abandoned due to the same constraints. Instead, a follow-up design relying on questionnaires as the principal instruments of data collection was adopted.

The chapter consists of six main sections: (a) the design of the study; (b) development of the research instruments; (c) validity and reliability of the instruments; (d) research methodology; (e) questionnaire returns; and (f) treatment of data.

Design of the Study

This exploratory and descriptive study sought to determine the extent to which the stakeholders of the evaluand perceived the program as being effective in meeting the expected outcomes. Data were obtained from three groups of stakeholders considered to have some direct experience and/or influence in matters pertaining to the program.

The Population

The population for the study consisted of three groups:

1. The graduates of the teacher education program;
2. The supervisors (heads of departments/faculties) of the graduates; and
3. The general faculty: a randomly selected group of untrained faculty members, i.e., faculty members who had not participated in the evaluand--the teacher preparation program.

The Graduates of the Program

This group of respondents was made up of faculty members who had graduated from the evaluand since its inception. Only those graduates engaged in the instructional process within one of the several paramedical disciplines in the context of the Republic of Kenya were included. In total, 54 respondents were identified. They were distributed in the following manner:

Class of: 1980 - 9
1981 - 12
1982 - 16
1983 - 17
Total 54

The selection of this group of stakeholders as the main evaluation target was predicated on the assumption that the graduates, having gone through the program, were in the best position to judge the effectiveness (or lack thereof) of the evaluand. They were considered to possess "the answers to the questions being posed," to paraphrase Katz and associates (1981:20). Being able to provide those right answers, needless to say, is crucial to the evaluative process.

The decision to include old graduates (those with two to four years teaching experience since graduation) was based on the belief that teachers with more experience in the real world of teaching, migh tend to be more objective in their judgement of the program and be generally more inclined to be realistic than less experienced teachers. Hilliard (1971:38-39) subscribed to this notion by observing an explicit commonness between teaching and marriage. The author amusingly observed that:

> What marriage really involves becomes apparent only after some years of married life. A teacher also needs a few years of teaching before he really knows what teaching involves and so can properly judge the effectiveness or otherwise of his initial course of professional education.

It was recognized, on the other hand, that a study which depended heavily on the recollections of the participants could not evade using the recently graduated teachers. This, it was hoped, "would minimize the possibility of distortion of recall" (Bethel, 1981:119).

Initially, in including all the graduates of the evaluand, the credibility (a feature notably absent from follow-up studies, according to Katz et al.) of this study was enhanced.

The Supervisors (Heads of Faculties/Departments)

Any degree of effectiveness of a teacher education program must be positively related to the quality of the graduates exiting the program. It is imperative, therefore, that an index or rather a unit of measurement indicative of the quality (or the lack thereof) of the graduates be used.

This index could be derived from any or a combination of the following sources: graduate self-appraisals, peer assessment, student appraisals, and administrator (supervisor) assessments. For the present study, the supervisors (heads of faculties/departments) were asked to judge the program's ability to foster the repertoire of skills, attitudes, and knowledge comprising Section II of the Graduates' and Supervisors' research instruments.

The choice for this cohort of respondents was based on two reasons. First, the heads of departments/faculties are ex-officio members of the decision-making machinery of the Medical Training Centre. They are, therefore, by virtue of their positions, supposed to be well versed in the goals and the day-to-day running of the teacher education program--a multi-disciplinary faculty of the Medical Training Centre. Second, since they are the immediate supervisors, by virtue of their positions again, of the graduates of the program, they would naturally be better informed than anyone else of the graduates' strengths and weaknesses, if any. Indeed, they overtly and/or covertly assess the performance of the graduates in their administrative and supervisory roles. The latter line of reasoning is in agreement with Smock's (19 : 577) contention that "departmental administrators are in the best position to judge how well a faculty member fulfills . . . responsibilities connected with instruction."

The group was comprised of the eleven heads of faculties/departments of the Medical Training Centre.

The General Faculty

This group of respondents consisted of faculty members of the Medical Training Centre and other paramedical training institutions in Kenya, who had not participated in the teacher preparation program.

Instrumentation

Three questionnaires, designed specifically for this study, were used to gather the data deemed necessary. These questionnaires were adopted as the sole research instruments in spite of the opposition found in some of the extant literature and by some sectors of the research community. The view expressed is that questionnaires have several disadvantages. One major disadvantage is their "low or non-response rate" (Mouly, 1970:245). Its consequences include:

> Decrease [in] the size of the sample on which the results are based . . . [and also introduction of] a bias [by] non-respondents [who] are likely to differ from respondents in fundamental ways.

This major disadvantage notwithstanding, it has generally been acknowledged that the boon of well constructed questionnaires far outweighs the bane. Furthermore, the problem of low or non-returns can be reduced or eliminated by:

> 1. Selecting a worthwhile topic and addressing the questionnaire to a group for whom the topic has interest and psychological meaning; and
> 2. Conducting follow-ups for the individuals who fail to return the questionnaire on first contact. (Mouly, pp. 256-257)

There are several advantages in using questionnaires. Ferber and Verdoorn (1962) delineated seven. These were (a) the possibility of wider and more representative distribution of sample; (b) no field staff needed; (c) cost is relatively low; (d) more frank answers may be solicited; (e) there is no interviewer bias; (f) the respondent answers at his leisure, has time to "think things over"; (g) certain segments of the population are more easily approachable. Mouly (1970:242) singles out the coverage potential of questionnaires as the most significant advantage. The author observes:

> Among the major advantages of the questionnaire is that it permits wide coverage at a minimum expense both in money and effort. It not only affords wider geographic coverage but it also reaches persons who are difficult to contact.

Duvall (1973:139) was of the same opinion. He stated:

> The single greatest advantage of a questionnaire is that it makes large segments of population available to the researcher for sampling purposes at a minimum cost.

Given these arguments for questionnaires and the apparently insurmountable problems facing the researcher if other methods were to be employed, a decision to use the three sets of questionnaires as the sole data collection instruments for this study seemed justifiable.

Graduates' Questionnaire

The graduates' questionnaire was the main instrument for the study. It consisted of five sections: (a) a demographic and personal data section; (b) a section regarding the worth of skills, attitude, and knowledge statements and the quality of instruction provided for the same; (c) a section in which graduates' views and perceptions of the various components of the program were gauged; (d) a section in which the graduates were asked to evaluate the overall success of the program; and (e) an open-ended section directed at exposing any favourable and unfavourable factors related to the operation or content of the program and space for any additional comments.

Section I

In this section, information related to demographic and personal variables was solicited; viz., graduates' faculty/department, age, sex, teaching experience, job group, professional qualification, and year diploma in Education (health professions) was earned.

This information was used to profile the demographic characteristics of the clientele of the teacher education program, and also to provide some of the data required for resolution of subproblem five, namely: "To what extent were the perceptions of graduates related to selected variables?"

Section II

Section II consisted of 103 statements of skills, attitudes, and areas of knowledge which were thought to characterize effective teaching. Using two Likert-type scales referenced to a single item or statement, the graduates were asked to indicate: (a) the worth of the various statements of skills, attitudes, and areas of knowledge by circling a number on the scale--ranging from (1) low to (5) high--which corresponded to their assessment of each skill, attitude, or knowledge (importance scale); and (b) the quality of instruction (preparation) provided for each skill, attitude, or area of knowledge by circling a number on the scale--ranging from (1) low to (5) high and (NA) no opinion--which corresponded to the graduates' assessment of the level of preparation received (effectiveness scale).

These statements were generated from several sources, as dictated by the conceptual framework of the study. No presumption regarding exhaustiveness of skills, attitudes, and knowledge which characterizes effective teaching is made despite the lengthy catalog. The writer, however, is cognizant of the wide coverage of pertinent issues.

Six primary sources were used to generate the 103 statements. These were: existing lists of teacher competencies; teacher effectiveness studies; medical education course--outline; theory pertaining to teacher education; task analysis profiles of adult education teachers; and teacher evaluation (students, administrators, peers, self) inventories. The sources specifically consulted included: Dodl *et al.* (1973), *The Florida Catalog of Teacher Competencies*; Arora (1978), *Differences Between Effective and Ineffective Teachers*; Ratsoy *et al.* (1979), *Skills of Beginning Teachers and Perceived Effectiveness of Preparation Programs*; Moore and Markham (1983), *A Competency Model for the Evaluation of Teacher Education Program Graduates*; WHO Technical Report Series No. 521, *Training and Preparation of Teachers for Schools of Medicine and of Allied Health Sciences*, *A Competency Analysis Profile of Professional Development for Adult Educators*; and Bethel (1981), *Teacher Education in the Bahamas*.

Section III

This section consisted of items geared toward direct evaluation of the Teacher Preparation Program for the Allied

Health Professions in Kenya. In Part A, the graduates were asked to rate the effectiveness of the various instructional materials, procedures, and activities employed in the program. The areas covered included teaching methods, facilities, resources, evaluation procedures, and teaching practice.

In Part B, items drawn from the three components of a faculty development program--instructional development, personal development, and organizational development (Berquist and Phillips, 1975)--comprised Sections I to III of this part. These items were included in an attempt to find out whether the program, which is basically an inservice program for teachers of allied health professions, a faculty development program so to speak, did indeed emphasize these components.

Sections IV and V of Part B consisted of items soliciting information regarding the organization/management of the program and graduates' satisfaction with the program, respectively.

Section IV

Information was sought from the respondents in respect to the perceived overall success of the program. They were asked to rate the success on a four-point scale ranging from Highly Successful (4) to Not Successful (1).

Section V

This was the open-ended section of the questionnaire. The respondents were provided with the opportunity to reflect on the planning, coordination, content, and the day-to-day operation of the program. They (the respondents) were requested to provide information pertaining to: (a) the factors which impressed them most favourably, and which they would like to see maintained; (b) the factors which impressed them most unfavourably, and which they would like to have discontinued or revised; and (c) other comments.

Supervisors' Questionnaire

This instrument consisted of three parts:

1. The demographic/personal data section;
2. A section containing a catalog of teaching skills, attitudes, and areas of knowledge; and
3. A section on the evaluation of the overall success of the program with allowance for additional comments.

Section I

The same demographic/personal information sought by the graduates' questionnaire was solicited. In addition, however, the supervisors were asked to provide the following information: (a) whether they were trained teachers; (b) number of instructors in their staff who were graduates of the teacher preparation program; and (c) their perception of the degree of staff accessibility to the teacher education program.

The data obtained from the responses to this section were used to:

1. Catalog the personal characteristics of the supervisors (heads of faculties/departments) of the various allied

health department/faculties of the Medical Training Centre;

2. Determine whether the supervisors were qualified to evaluate the graduates of the teacher education program; and
3. Provide some of the data required to resolve subproblem six: "Did the faculty of allied health institutions perceive the teacher education program as being generally accessible?"

Section II

This section consisted of the same skills, attitudes and areas of knowledge comprising Section II of the graduates' questionnaire. The supervisors were asked to indicate: (a) how important they thought each skill, attitude and knowledge was to the teaching job; and (b) how well they thought the member(s) of the instructional staff was(were) prepared in each skill, attitude and knowledge by participating in the teacher education program. Only those supervisors who indicated presence of graduates of the program in their instructional staff were asked to respond to Part B of this section.

Section III

Information regarding the supervisors' evaluation of the overall success of the teacher education program for allied health professions was solicited. The supervisors were encouraged to present any comments concerning the program in the space which was provided for additional comments.

The Non-Participants' Questionnaire

This instrument contained sections similar to those comprising the supervisors' questionnaire. Section II(b), however, was not included in this instrument since the non-participants could not be expected to judge the level of preparation of the graduates of a program in which they had not participated.

the purpose of the instrument was two-fold:

1. To generate more data concerning: (a) the importance of the various skills, attitudes, and knowledge to the teaching of allied health professionals; (b) the overall success of the program (the non-participants provided the external source of views concerning the success of the program); and (c) perceptions on accessibility to the program from the potential clientele; and
2. To profile the characteristics of the non-education trained faculty of allied health institutions.

Validation of the Research Instrument

Validity is the extent to which an instrument measures what it purports to measure (Mouly, 1970:116). There are several types of validity: predictive validity, content validity; concurrent validity; construct validity; and face validity. Of paramount concern in studies such as this one are content validity and face validity.

The following procedures were undertaken to ensure that the instruments used were valid:

1. All items comprising Section II of the graduates', supervisors' and non-participants' questionnaires were generated from the literature pertaining to teacher education programs. This procedure ensured that the items included were relevant to the theme of the study.

2. The items comprising Section III of the graduates' questionnaire were generated from the model of effective faculty development programs. The procedure also helped enhance the criterion of relevance of the items.
3. The criterion of completeness of the topic under investigation--a prerequisite of content validity, and indeed of the Multi-goal Theory approach (the conceptual framework for this study)--was accomplished through procedures (1) and (2).
4. The initial list of skills, attitudes and knowledge were distributed to the faculty of the Medical Training Centre (Nairobi - Kenya) for their comments regarding the relevance, importance, and ambiguity of the items. A revised list was made on the basis of their recommendations.
5. The revised version was presented to an expert in test construction for examination and refinement.
6. Later, the research instruments were presented to the members of the dissertation committee for their comments and final approval.

7. To guard against the graduates' propensity to project an idealized picture of their level of preparation; supervisors' ratings regarding the same were sought. This provided "an external check" of the validity of the graduates' self-reports.

Reliability of the Instruments

Reliability refers to the consistency of a measuring instrument (Treece and Treece, 1977:113). According to researchers, e.g., Mouly (1970) and Dressel (1976), a reliable instrument should be able to reproduce a set of measurements over time or different test settings.

In this study, it was not possible to apply procedures frequently adopted to test the reliability of research instruments--"test-retest" procedure, and "equivalent test" procedure (Treece and Treece)--due to constraints of distance, time and finance. The researcher did, however, attempt to establish reliability of the instruments by:

1. Performing the split-half reliability test on the responses. Two separate scores for each person, one odd-numbered and one even-numbered, were obtained. These two sets of scores were correlated for each of the three groups of respondents, i.e., the graduates, supervisors, and the non-participants. The coefficients obtained were:
   - graduates' questionnaire, $r = 0.99$;
   - supervisors' questionnaire, $r = 0.99$; and
   - non-participants' questionnaire, $r = 0.99$.
2. Computing the Cronbach's Alpha Coefficient. According to

Cronbach (1970:160) this coefficient indicates how well scores obtained by a single administration of a test represent a universal score. It is simply an indication of the accuracy of just one observation. These were the coefficients obtained:

- graduates' questionnaire, r = 0.97;
- supervisors' questionnaire, r = 0.99; and
- non-participants' questionnaire, r = 0.99.

The high coefficients indicated that the questionnaires were sufficiently reliable to be used for the study.

Research Methodology

Request for Permission and Funds to Conduct the Study

The researcher contacted the Principal of the Medical Training Centre and the Director of the Educational Research and Development Program (Medical Education) informing them of his (researcher's) intention to carry out the evaluative study. Both the Principal and the Director expressed interest and offered their support and, indeed, any assistance within their administrative jurisdiction to the researcher. The principal, however, was non-committal to the researcher's request for funds to underwrite the various research costs. He suggested that the researcher contact the Directorate of Personnel Management through the Permanent Secretary, Ministry of Health. This is the usual protocol for securing funds from the government.

Following the encouraging conversation with these two gentlemen and the principal's advice, the researcher drafted a letter to the Directorate of Personnel Management through the Permanent Secretary to the Ministry of Health, with copies to the Principal, Medical Training Centre, and the Kenya High Commission based in Ottawa, Canada. The contents of this letter included two requests: first, for the extension of the researcher's fellowship which had expired the year before and had not been renewed; and second, for a research grant (see Appendix C). The response to this letter was negative.

Identification of the Research Population

The major stakeholders of the Teacher Preparation Program for Allied Health in Kenya were identified as: the graduates of the program; their supervisors; and the faculty of the Medical Training Centre and other institutions training allied health personnel. These three groups comprised the population of the study.

The graduates were identified from the records of the Faculty of Educational Research and Development. All graduates of Kenyan nationality who were engaged in teaching within the various paramedical disciplines (allied health) at the time were selected.

The supervisors' and the non-participants' cohorts were identified from the records of the Medical Training

Centre. All heads of faculties who had graduate(s) of the Teacher Education Preparation Program as members of their instructional staff formed the supervisors' cohort. The non-participants' group, on the other hand, was composed of randomly selected faculty members of the Medical Training Centre who had not participated in the teacher preparation program.

The Distribution and Return of Questionnaires

The data for this study were collected through mailed questionnaires. The three sets of research instruments--60 graduate questionnaires, 11 supervisor questionnaires and 40 non-participant questionnaires--were personally delivered to the Director of the program by a fellow Kenyan and family friend, who was returning to Kenya. They (the questionnaires) were color-coded to enhance easy identification. The graduate questionnaires were color-coded yellow, the supervisor questionnaires were color-coded blue, and the non-participant questionnaires were color-coded pink (see Appendix A).

Each questionnaire was accompanied by a cover letter outlining the purpose of the study, delineating the ultimate utility of the research results to the respondent, inviting the subjects to participate in the study, and assuring them (the participants) of anonymity of responses (see Appendix B). Also included in the same package was a detailed instruction sheet addressed to the Director of the program (see Appendix C).

The questionnaires were distributed to the target population by the Director. Upon their completion, he arranged for their return to the researcher.

Questionnaire Returns

It was pointed out at the beginning of this section that the bane of studies that utilize mailed questionnaires as data gathering instruments is the problem of non-response. These instruments are charged not only for lowering the sample size and therefore inducing unrepresentativeness, but also introducing a stronger possibility of bias in the study.

To alleviate this problem and hence its serious consequences, several procedures have been proposed. Kline (1980) proposed offering incentives, having questionnaires of reasonable length, and using the preferred postage and addressing. Other researchers recommend guarantees of anonymity (Mason _et_ _al._, 1961), use of a personal, concise and attractive cover letter (Parten, 1966), hand-written signatures rather than mimeographed facsimiles (Linsky, 1965), use of vigorous follow-up procedures (Scott, 1961), and care in selecting the color of stationery (Gullahorn and Gullahorn, 1963).

These recommendations nevertheless leave a lot to be desired. Their empirical justification, if any, are inconclusive. Take, for instance, the length of the questionnaire recommendation. Kline (1980:vi-57) notes that the "relationship between questionnaire length and response rate is much too simple a generalization." He goes on to point out that "empirical evidence gathered by Champion and Sear . . . indicate that longer questionnaires (nine pages) tend to be returned more frequently than shorter ones (three pages)!"

Notwithstanding all the maximization procedures, the rate of return for most questionnaire studies is dismal. Kerlinger (1973) was content with a 50 to 60 percent return. Treece and Treece (1977:194) was of the opinion that "any questionnaire . . . that produces 75% to 85% response [rate] is doing extremely well."

In this study, the maximization procedures employed were: guarantee of anonymity; use of personal, concise and attractive cover letters; hand-written signatures; and indication of the benefits that would accrue to the individual and the whole institution from the findings. The topic addressed in the questionnaire was a motivating factor by itself as well. Medical Education was (still is) a hot issue to all the trainers of the allied health profession.

The pay-off for these procedures was a varied return, from cohort to cohort. For the graduate questionnaire, 43 (79.6%) usable questionnaires out of the 54 potential respondents were returned. Eight usable supervisor questionnaires (80%) and 20 non-participant questionnaires (50%) were also returned. These response rates were equal to or better than Kerlinger's (1973) recommendation. And, according to Treece and Treece (1977), both the graduates and supervisor questionnaires (the principal instruments for the evaluative study), with 79.6 percent and 80 percent response rate, respectively, were doing "extremely well."

Treatment of Data

The data from the returned questionnaires were punched directly from the questionnaires to 80-column IBM cards. No coding was necessary since all the questionnaires had been precoded.

The numerical data obtained from Sections I through IV of the graduates' questionnaire, and Sections I through III of both the supervisors' and the non-participants' questionnaires, were electronically analyzed using computer programs from the Statistical Package for the Social Sciences (SPSS) (Nie _et al._, 1975).

Summary

Two themes have been discussed in this chapter, namely the research design and the research methodology.

In the design section of the chapter, attempts have been made to outline in detail the procedures (and their justification), followed in identifying the target population and in the constructing of the

Table 1

Rate of Response for Graduates,
Supervisors, and Non-participants

Respondent	No. of Questionnaires Sent	Possible Responses	Actual Responses	Percentage of Responses
Graduates	60	54	43	79.6
Supervisors	11	10	8	73.0
Non-participants	40	40	20	50.0
Total	110	104	71	68.0

instruments for the study and validating them.

The second part of the chapter highlights issues pertaining to the theme of research methodology, e.g., the protocol followed in seeking permission and funds for the study, the distribution of the questionnaires, the rate of response, and the procedure used to translate the returns into meaningful data.

CHAPTER V

CHARACTERISTICS OF THE POPULATION

The characteristics of the population of this study are described in this chapter in terms of the demographic and personal data provided in Section I of the three sets of questionnaires. The chapter is divided into three parts. In the first part, the characteristics of the graduates are discussed. In parts two and three, respectively, the supervisors' and the non-participants' faculty without education training characteristics are profiled.

The Characteristics of the Graduates

Age

Table 2 contains data which show the distribution of the graduates on the independent variable age.

The data show that the majority of the graduates of the teacher education program (95.3%) were under 40 years of age. Eight graduates (18.6%) were between the ages of 20 and 29 years. Only two graduates (4.7%) were over 40 years.

Table 2

Distribution of Respondents (Graduates) by Age

Age	Frequency	Percentage
20-29 yrs.	8	18.6
30-39 yrs.	33	76.7
40-49 yrs.	2	4.7
Total	43	100.0

Sex

There were more male respondents than female respondents, 74.4 percent males against 25.6 percent females. The distribution of responding graduates by sex appears in Table 3.

Discipline Faculty/Department)

It will be recalled from Chapter I that the Medical Training Centre is a multi-disciplinary institution for training paramedical (allied health) personnel. Consequently, it is necessary that the teacher preparation program based in the institution reflect a multi-disciplinary characteristic. Table 4 summarizes the numbers of responding graduates by discipline.

It is evident from the table that the newly established departments of Dental Technology and Orthopaedic Technology are missing. This, however, does not mean that they are not represented. The head of Dental Technology, for instance, reports that he has one or two graduates of the Teacher Training Program. As regards the Department of Orthopaedic Technology, the Director of the teacher education program confirmed that one or two 1983 graduates were faculty members in the department of Orthopaedic Technology. No explanation is evident from the data for the non-response of the graduates from these two departments.

It is also evident from the data that the departments/faculties of Nursing, Medical Laboratory, and Clinical Medicine have benefited more than the other allied health disciplines, in terms of number of graduates. However, it would

Table 3

Distribution of Respondents (Graduates) by Sex

Sex	Frequency	Percentage
Male	32	74.4
Female	11	25.6
Total	43	100.0

Table 4

Number of Responding Graduates by Discipline

Discipline (Faculty/Department)	Frequency	Percentage
Radiography	6	14.0
Clinical Medicine	7	18.6
Medical Laboratory	8	20.9
Nursing	9	20.9
Environmental Health	3	7.0
Occupational Therapy	5	7.0
Pharmacy	3	7.0
Physiotherapy	2	4.7
Total	43	100.0

be erroneous to arrive at this conclusion since no figures for total graduates are provided for each discipline. The table is limited to those returning the questionnaires. It is nonetheless possible that there has been an overt attempt to recruit more clients from the larger and older departments/faculties of the Medical Training Centre.

Teaching Experience

The teaching experience of the graduates varied from less than one year to 10 years or more. The frequency and percentage distributions of the respondents are presented in Table 5.

Highest Professional Qualification

The graduates of the Teacher Preparation Program were holders of diplomas in their respective disciplines (see Table 6). No one held a higher degree in education than the diploma.

Year Diploma in Education Awarded

Table 7 shows that the composition of the respondents included 1980, 1981, 1982 and 1983 graduands.

In order to provide the reader with a clearer picture of the distribution of the graduates, Table 8 showing frequencies and percentages distributions by year of graduation is presented.

Although the response rates for 1980 (44.4%) and 1981 (50%) are comparatively low, it is demonstrated by

Table 5

Distribution of Respondents (Graduates) by Teaching Experience

Teaching Experience	Frequency	Percentage
Less than 1 year	1	2.3
1-3 years	21	48.8
4-6 years	14	32.6
7-9 years	4	9.3
10 years or more	3	7.0
Total	43	100.0

Table 6

Highest Professional Qualification

Qualification	Frequency	Percentage
Diploma	42	97.7
Bachelor's degree	0	0
Master's degree	0	0
Others	0	0
Total	42	97.7

N = 42
*One Graduate did not indicate his/her qualification.

Table 7

Distribution of the Graduates by
Year Diploma in Education was Awarded

Year	Frequency
1980	4
1981	6
1982	15
1983	17
Total	42

N = 42
*One graduate did not indicate the year diploma in Education was earned.

Table 8

Number and Percentage of Respondents (Graduates)
by Year of Graduation

Year of Graduation	Total Number of Graduates	Total Number of Respondents	Percentage
1980	9	4	44.4
1981	12	6	50.0
1982	16	15	93.7
1983	17	17	100.0
Total	54	42	77.7

N = 42 (One graduate did not indicate the year).

this distribution and the previous one (Table 1) that all the graduates of the program were provided with the opportunity to respond to the questionnaire.

Job Group

A Job Group in Kenya denotes a rank within the structure of the civil service. The ranking is alphabetically named with Job Group A signifying the lowest group in the structure. In all, there are fifteen Job Groups, namely:

Job Group A
" " B
" " C
" " D
" " E
" " F
" " G
" " H
" " J
" " K
" " L
" " M
" " N
" " P
" " Q

It is apparent from this ranking that the median lies somewhere between Job Groups H and J.

The data presented in Table 9 shows two modal categories, Job Group G (37.2%) and Job Group H (44.2%). Only five graduates (11.6%) are in Job Group J.

Table 9

Distribution of Respondents (Graduates)
by Job Group

Job Group	Frequency	Percentage
Job Group G	16	37.2
Job Group H	19	44.2
Job Group J	5	11.6
Total	40	100.0

The Characteristics of Supervisors (Heads of Departments)

Age

The supervisors' group tended to be comprised of the older faculty members. Only one (12.5%) was in the age category 20 to 29 years. Table 10 presents the distribution of the supervisors by age.

Sex

Table 11 shows the distribution of the supervisors by the independent variable sex. Male domination (85.7%) of the senior positions is evident in the data. Only one supervisor (14.3%) was female.

Discipline

Eight out of ten supervisors responded to the research instrument. Table 12 shows their distribution according to their disciplines.

Teaching Experience

The data presented in Table 13 shows that the majority of the supervisors were individuals with vast teaching experience. Five supervisors (62.5%) reported teaching experience of 10 years or more. Two (25%) reported teaching experience ranging from four to nine years. Only one supervisor (12.5%) reported a teaching experience of one to three years.

Table 10

Distribution of Supervisors by Age

Age Category	Frequency	Percentage
20-29 years	1	12.5
30-39 years	3	37.5
40-49 years	2	25.0
50 years or over	2	25.0
Total	8	100.0

N = 8

Table 11

Distribution of Supervisors by Sex

Sex	Frequency	Percentage
Male	6	85.7
Female	1	14.3
Total	7	100.0

Table 12

Distribution of Supervisors by Discipline

Discipline	Frequency	Percentage
Radiography	1	12.5
Clinical Medicine	1	12.5
Nursing	1	12.5
Environmental Health	1	12.5
Occupational Therapy	1	12.5
Pharmacy	1	12.5
Physiotherapy	1	12.5
Dental Technology	1	12.5
Total	8	100.0

Table 13

Distribution of Supervisors by Teaching Experience

Teaching Experience	Frequency	Percentage
1-3 years	1	12.5
4-6 years	1	12.5
7-9 years	1	12.5
10 years or more	5	62.5
Total	8	100.0

Highest Professional Qualifications

All the respondents (supervisors) were diploma holders in their respective disciplines (see Table 14).

Job Group

The data in Table 15 show that four supervisors (50%) were above the median Job Group (between H and J). The other 50 percent were below the median.

Teacher Training Variable

As the data in Table 16 indicate, the majority of the supervisors (87.5%) were trained teachers. One supervisor (12.5%), however, was untrained.

The Characteristics of the Untrained Faculty

In order to profile the characteristics--personal and demographic--of the untrained faculty, the following information regarding such independent variables as age, sex, discipline, teaching experience, professional qualification, and job group were gathered through responses to Section I of the non-participants' questionnaire.

Age

The majority (95.0%) of the untrained faculty members were under 40 years of age. Among these, 25 percent were under 30 years (see Table 17).

Table 14

Distribution of Supervisors by
Highest Professional Qualification

Qualification	Frequency	Percentage
Diploma	8	100%

Table 15

Distribution of Supervisors by
Job Group

Job Group	Frequency	Percentage
G	2	25.0
H	2	25.0
J	1	12.5
K	3	37.5
Total	8	100.0

Table 16

Supervisor with
Teacher Training

	Frequency	Percentage
Teacher training	7	87.5
No teacher training	1	12.5
Total	8	100.0

Table 17

Distribution of Untrained Faculty by Age

Age Category	Frequency	Percentage
20-39 years	5	25.0
30-39 years	14	70.0
40-50 years	1	5.0
Total	20	100.0

Sex

Most of the respondents in the untrained faculty members' cohort were male (75%). The female representation, as shown in other portions of this report, was quite low. The data presented in Table 18 show the distribution.

Discipline

The data presented in Table 19 show a varied representation of the various allied health disciplines in this group of respondents.

Teaching Experience

It is evident from Table 20 that the untrained faculty members had relatively fewer years of teaching experience. Only five respondents (25%) had four or more years of teaching. The remaining fifteen respondents (75%) reported teaching experience ranging from less than one year to three years.

Highest Professional Qualification

Eighteen respondents (90%) were holders of diplomas in their respective professions. One respondent (5%) had a Master's degree, and another reported other qualification which was not identified (see Table 21).

Table 18

Distribution of Untrained Faculty by Sex

Sex	Frequency	Percentage
Male	15	75.0
Female	5	25.0
Total	20	100.0

Table 19

Distribution of Untrained Faculty by Discipline

Department/Faculty	Frequency	Percentage
Clinical Medicine	3	15.0
Medical Laboratory	1	5.0
Nursing	2	10.0
Environmental Health	2	10.0
Occupational Therapy	2	10.0
Pharmacy	3	15.0
Physiotherapy	4	20.0
Dental Technology	1	5.0
Orthopaedic Technology	2	10.0
Total	20	100.0

Table 20

Distribution of Untrained Faculty by Years of Teaching Experience

Experience	Frequency	Percentage
Less than 1 year	5	25.0
1-3 years	10	50.0
4-6 years	3	15.0
10 years or more	2	10.0
Total	20	100.0

Table 21

Distribution of Untrained Faculty by Highest Professional Qualification

Qualification	Frequency	Percentage
Diploma	18	90.0
Masters	1	5.0
Other	1	5.0
Total	20	100.0

Job Group

The respondents in this group were distributed in Job Groups G, H and J. Job Group G, however, was the mode. Table 22 is a summary of the distribution.

Summary

A detailed analysis of the personal and demographic data of the subjects of this study was presented in the chapter. Differences related to such independent and dependent variables as age, sex, profession, teaching experience, professional qualification, and job group are noted. A pattern of characteristics typical to each of the three groups is discernible from the data.

The graduates group, for instance, consisted of young men and women (mostly men) of under forty years of age. All are holders of diplomas in their respective professions, have taught for one to six years, and tend to belong to Job Groups G and H classifications.

The supervisors' group, on the other hand, consisted of older individuals with more experience in teaching (10 years or more). They were diploma holders both in their professions and teacher education. Their Job Groups ranged from G to K, with K being the mode.

The untrained faculty was relatively younger, predominantly male, characterized with less teaching experience (1 to 3 years), and lowest Job Group classification (the mode was Job Group G). Like all other teachers of the

Table 22

Distribution of Untrained Faculty by Job Group

Job Group	Frequency	Percentage
G	12	60.0
H	4	20.0
J	4	20.0
Total	20	100.0

allied health professions, their highest professional qualifications were diplomas in their various disciplines.

Some commonalities, nonetheless, did emerge. First it was observed that the faculty of Medical Training Centre was predominantly male although half the student population is female. Second, the salary structure for the faculty members is extremely low (see Table 23, distribution of "salary scales"--job groups--among faculty members). This interpretation is based on the fact that the clients of this institution are normally engaged on Job Group G upon completion. And third, despite the vociferous outcry for improved manpower in allied health institutions, the highest professional qualification for the faculty members is still the diploma.

Table 23

Summary of Job Groups of the Faculty of Medical Training Centre

	Job Group				
Faculty Members	G	H	J	K	Total
Heads of faculty	2	2	1	3	8
Graduates	16	19	5	0	40
Untrained faculty	12	4	4	0	20
Total	30	25	10	3	68

CHAPTER VI

ANALYSIS OF THE DATA: PERCEPTIONS OF GRADUATES, SUPERVISORS, AND UNTRAINED FACULTY

The primary purpose of this study was to determine the extent to which the Teacher Education Program for the teachers of allied health professions (paramedicals) in the Republic of Kenya was perceived by its stakeholders as being effective.

In this chapter the nine research questions (subproblems) posed in Chapter I are discussed, both in the light of data analysis procedures and the resulting findings. Also included in the chapter are the open-ended responses solicited through the open-ended sections of the three sets of research instruments.

Subproblem 1

> To what extent did the graduates of the Teacher Education Program perceive the various instructional components as being effective?

The data used to resolve Subproblem 1 was obtained from the graduates' responses to subsection III(A) of the graduates' questionnaire. In this subsection, information regarding the perceived effectiveness of the instructional resources and procedures employed in preparing the graduates was sought. The resources and procedures were identified as textbooks and required readings, lectures conducted at Kenyatta University College, Kenya Institute of Administration, and Medical Training Centre; examinations conducted at Kenyatta University College, Kenya Institute of Administration, and Medical Training Centre; Termination Project (thesis); conference with supervisors; teaching practice; seminars; educational tours; and guest speakers. The mean rating for the particular resources and procedures ranged from $\overline{X}$ = 2.04 (lowest) to $\overline{X}$ = 4.21 (highest). The thirteen components and their respective means, and the percentage of graduates rating the component NOT EFFECTIVE (see Table 24).

Discussion

The data in Table 24 indicate a modest effectiveness rating of the various learning resources and procedures employed in preparing the faculty of allied health. Among the thirteen components delineated, only one, the Termination Project (Thesis)--with a mean rating of 4.21--was perceived as being Highly Effective in preparing the graduates. The most ineffective component was identified as Educational Tours, $\overline{X}$ = 2.04.

The four most highly-rated components were: thesis project ($\overline{X}$ = 4.21); teaching practice ($\overline{X}$ = 3.86), textbooks and required readings ($\overline{X}$ = 3.67), and lectures conducted at the Medical Training Centre ($\overline{X}$ = 3.67). The first two, thesis project and teaching practice, topped the list of

Table 24

Perceived Effectiveness of the Instructional Components (Resources and Procedures) by the Graduates and Percent Perceiving the Component as Being Ineffective

Instructional Components	Mean Rating*	Percent Rating the Component NOT Effective
Textbooks and required readings	3.67	11.7
Lectures (Kenyatta University College)	3.25	14.0
Lectures (Kenya Institute of Administration)	3.52	9.3
Lectures (Medical Training Centre & Kenyatta National Hospital)	3.67	11.7
Examinations (Kenyatta University College)	3.42	7.0
Examinations (Kenya Institute of Administration)	3.38	4.6
Examinations (Medical Training Centre of Kenyatta National Hospital)	3.58	11.7
The Termination Project	4.21	0.0
Conference with Supervisors	3.51	21.0
Teaching Practice	3.86	4.6
Seminars	3.03	20.9
Educational Tours	2.04	37.2
Guest Speakers	2.91	25.6

*Maximum Rating = 5 = Highly Effective.

factors that impressed the graduates most favourably (see Table 51). They, however, expressed discontent with the time allotted to these activities (see Table 52, "Factors which Impressed the Graduates Most Unfavourably and Would Like to Have Them . . . Revised").

Allocating time to the various components of any teacher education program seems to be a very frustrating exercise. Some components never seem to have enough, no matter how much time is allotted. Practice Teaching is a case in point. Extended practicum has become the rule, although empirical evidence fails to support the claim that lengthy teaching practica are contributing to positive professional predispositions of student teachers. Clifton and Covert's (1979) findings are supportive of this assertion. The researchers "compared two extended practicum situations with a control group having only two weeks of student teaching . . . . [The findings] revealed no significant differences in self-concept, motivation or attitude to teaching" (Andrews & Rogers, 1981:12.9).

As regards the moderate effectiveness rating of the other components, no explanation is evident from the data. It is nonetheless evident that lectures and examinations conducted outside the zone of Medical Training Centre were relatively rated lower. Is the low rating reflective of a lesser degree of effectiveness? The data would suggest so. However, a closer look at the data and the statements made in the open-ended section of the questionnaire reveal an expression of disgruntlement with the arrangements for the teaching or for conducting examinations rather than the nature of the teaching or examinations. For instance, the graduates had to commute ten to fifteen miles for the lectures. Their discontent with this was clearly evident from their answers to the question which sought "those factors that impressed you most unfavourably." Poor transportation received most frequencies of mention.

Subproblem 2

> To what extent were the graduates of the Teacher Education Program satisfied with the program?

Five items comprising section III(v) were analyzed for the resolution of Subproblem 2. Among the five items, four were indirect measures of satisfaction, which sought information regarding graduates' satisfaction with the quality of the program, their expectations and whether they (expectations) were satisfactorily met, their perception on the practical significance of the program, and their recommendation for adoption of the program as a component of medical education in Kenya. The fifth item, on the other hand, was an explicit assessment of graduates' satisfaction. The results are shown in Table 25.

The findings indicate a rather high degree of graduate satisfaction. Of the responding graduates, 90.7 percent either agreed or strongly agreed with the statement that "I will certainly recommend the adoption of this program

Table 25

Extent to Which the Graduates Were Satisfied with the Overall Program and Percent Disagreeing or Strongly Disagreeing

Statements	Mean Rating*	Percent Disagreeing or Strongly Disagreeing
1) I consider the quality of this program satisfactory	3.72	9.3
2) My expectations of the program were met to my satisfaction	3.57	7.0
3) The program is definitely of practical significance to my teaching	4.30	0.0
4) I will certainly recommend the adoption of this program as a vital component of medical education in Kenya	4.41	2.3
5) In an overall, general sense, I am very satisfied with the program	3.95	7.0

*Maximum rating = 5.0.

as a vital component of medical education in Kenya" ($\overline{X} = 4.30$); while 83.7 percent agreed that they were satisfied with the program in an overall general sense.

Two items received relatively mediocre agreement scores; satisfaction with the quality of the program ($\overline{X} = 3.72$) with a response rate of 74.4 percent agreeing or strongly agreeing, and satisfaction regarding the extent to which their expectations were met ($\overline{X} = 3.57$) with a response rate of 62.8 percent.

Discussion

The degree of feeling of contentment felt by clients of a program has been used, sometimes exclusively, to gauge the effectiveness of a program. "Client satisfaction" as an evaluative domain is prominent in organizational effectiveness studies. To signify its importance, Jeffrey, Pfeffer and Salancik (1978:257) defined the effective organization as the one that satisfies the demands of those in its environment. Dessler (1980) listed it as one of the single-criterion measures of organizational effectiveness, ranking third behind such universal effectiveness criteria as adaptability-flexibility, and productivity. Suchman (1967) too was of this opinion.

In this study, the graduate satisfaction criterion was used in combination with other criteria to assess the degree of effectiveness of the evaluand. This is the prevalent mode of thinking and indeed practice among contemporary organizational theorists. Friedlander and Pickle's (1968), Gibson's _et al._ (1973), and Negandhi and Reiman's (1973) models of organizational effectiveness are a testimony to this assertion.

As is evident in the table, the graduates were generally satisfied with the program. One had this to say in the space provided for additional comments:

> The course is generally good . . . . It exposes participants to new trends in educational field.

Subproblem 3

> To what extent did the graduates of the program perceive their preparation as having assisted them to develop skills, attitudes, and knowledge deemed necessary for effective teaching?

Graduates of the Teacher Preparation Program for the teachers of allied health were invited to provide questionnaire responses on how well the program prepared them in each of the 103 skills, attitudes, and knowledge listed in Section II of the questionnaire. The data thus gathered were used to indicate the degree to which the program was perceived as being effective in providing the clients with the repertoire of competencies.

The data are reported in seven tables representing the seven categories under which the items were clustered, namely: lesson preparation, communication, assessment, interpersonal relationships, miscellaneous category, and professional awareness.

Lesson Preparation

Table 26 presents the mean ratings and the percentage of graduates rating the level of preparation as high (4 or 5). For eight of the 16 items comprising the section, the graduates' mean rating fell between 4 and 5, on the five-point scale, indicating a high level of preparation. These items, rank-ordered according to their mean rating, were: stating instructional objectives in behavioral terms ($\overline{X}$ = 4.57); defining instructional objectives that are consistent with the students' health service role upon completion of training ($\overline{X}$ = 4.47); selecting appropriate methods of teaching ($\overline{X}$ = 4.32); defining the objectives of particular lessons and units in terms of student behaviors ($\overline{X}$ = 4.27); selecting appropriate subject content ($\overline{X}$ = 4.26); planning instructional activities ($\overline{X}$ = 4.19); organizing course content in a fashion that is understandable to students ($\overline{X}$ = 4.11); and selecting appropriate subject content ($\overline{X}$ = 4.00) (see Figure 9).

All the eight remaining items had mean ratings ranging from 3.27 to 3.95. Although the ratings do not reflect a high level of preparation, they do not indicate a low level of preparation either (1 and 2 ratings indicate a low level of preparation). They are, however, suggestive of a lapse in the level of preparation. This notwithstanding a Grand Mean of G$\overline{X}$ = 4.01 was obtained for the category, meaning that on the whole the graduates of the program did perceive their preparation in lesson preparation positively..

Table 26

Graduates' Rating of Their Perceived Level of Preparation in Lesson Preparation and Percent Rating Level of Preparation Low

Statement of Skills, Attitudes and Knowledge	Average Rating* of Level of Preparation	Percent Rating Preparation Low
1) Judging the appropriateness of instructional materials	3.75	9.3
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training	4.45	9.4
3) Selecting appropriate methods of teaching	4.32	4.7
4) Organizing course content in a fashion that is understandable to students	4.11	7.0
5) Stating instructional objectives in behavioral terms	4.57	7.0
6) Defining the objectives of particular lessons and units in terms of student behaviors	4.27	4.7
7) Planning instructional activities	4.19	4.6
8) Selecting appropriate subject content	4.26	9.3
9) Preparing lesson plans	3.90	7.0
10) Selecting appropriate content from a large body of expanding knowledge	3.95	23.3

(. . . cont'd)

Table 26 (cont'd)

Statement of Skills, Attitudes and Knowledge	Average Rating* of Level of Preparation	Percent Rating Preparation Low
11) Selecting appropriate teaching materials	4.00	11.7
12) Seeking and using the assistance of educational specialists for planning when appropriate	3.47	18.7
13) Preparing appropriate teaching aids	3.69	18.6
14) Applying accepted principles of adult learning in the design of instructional strategies	3.48	16.3
15) Determining learner characteristics	3.86	13.9
16) Involving students in the process of defining objectives	3.27	30.2

*Maximum Rating = 5.00

$G\overline{X}$ = 4.01.

G 1

A Comparison of Graduates' Ratings
of Importance and Level of Preparation
in Lesson Preparation

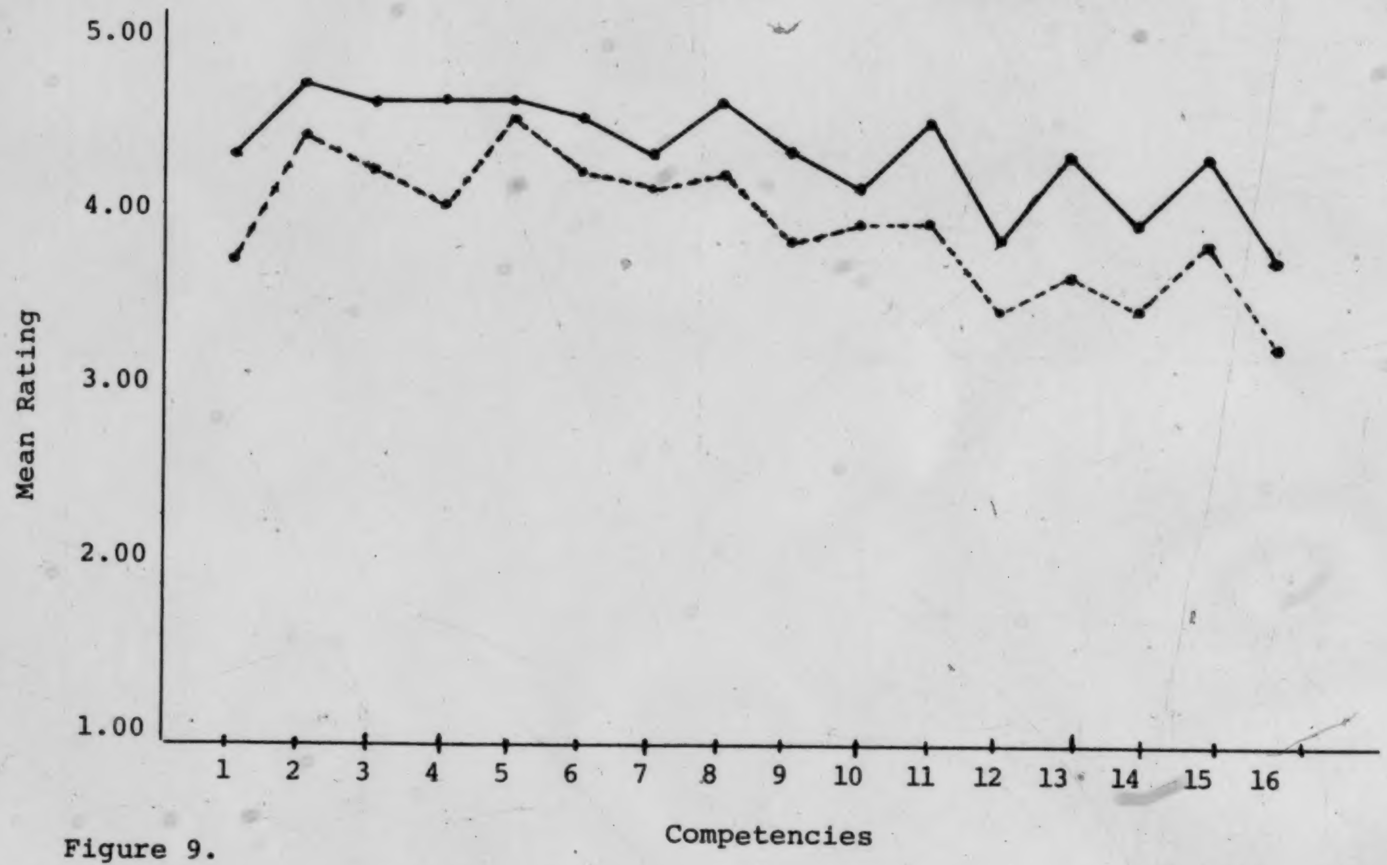

Figure 9.

Communication

As evident in Table 27, graduate ratings of their preparation in skills, attitudes, and knowledge pertaining to communication tended to fall between 3 and 4 on the five-point scale. The item rated lowest had a mean rating of 3.73, while the highest mean rating was 3.97. The Grand Mean (G$\bar{X}$) rating for the category was 3.96. Figure 10 shows a comparison of graduates' ratings of importance and level of preparation in communication.

Table 27

Graduates' Ratings of Their Perceived Level of Communication and Percent Rating Level of Preparation Low

Skills Attitudes Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Low
Orally communicating information on a given topic in a coherent, logical manner	3.97	9.4
Writing in a logical, easily understood style with appropriate grammar and sentence structure	3.97	11.7
Comprehending and correctly interpreting a message after listening	3.73	16.3
Ability to read, comprehend, interpret professional material	3.85	11.7

G$\bar{X}$ = 3.96.
*Maximum Rating = 5.00.

A Comparison of Graduates' Ratings of
Importance and Level of Preparation
in Communcation

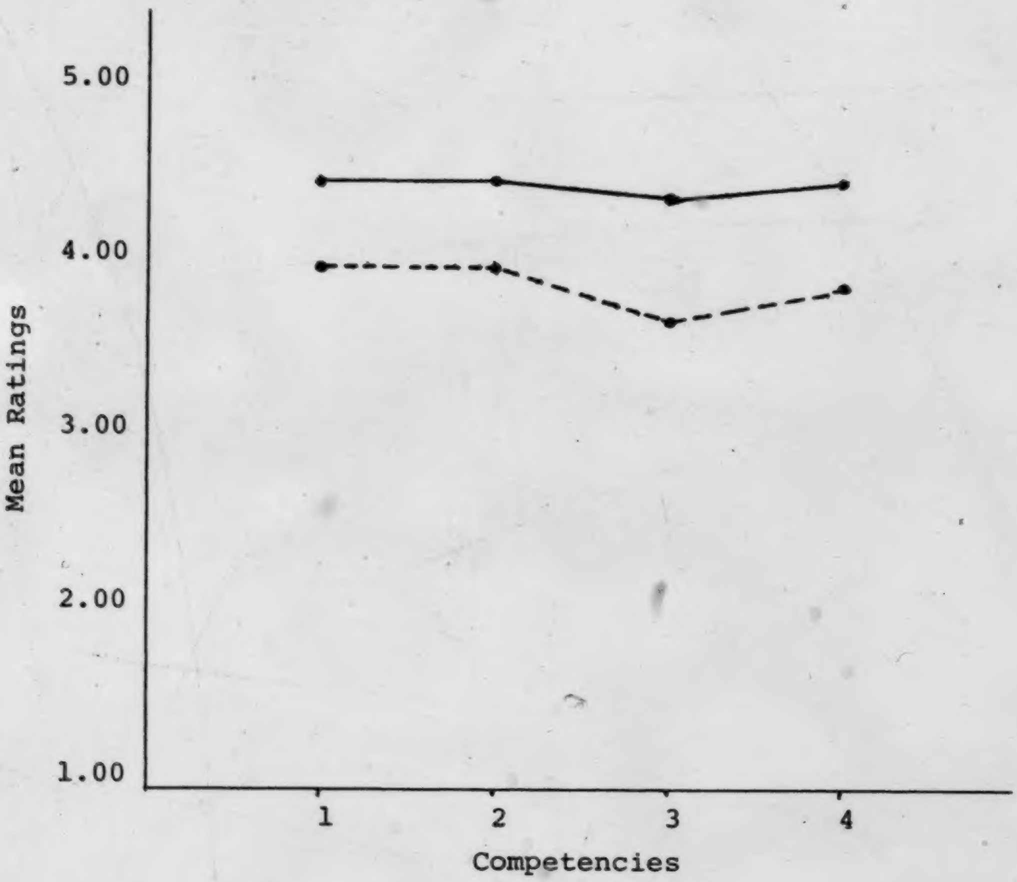

Figure 10.

Lesson Presentation

The data presented in Table 28 reveal that the graduates generally viewed the preparation they received in the various aspects of lesson presentation very positively. Eleven of the 22 items comprising the category received ratings ranging from 4 to 5, indicating a high level of preparation. For the remaining 11 items, the mean rating ranged from 3.20 (lowest) to 3.92 (highest).

The column of percentages shown in the table is supportive of the above finding. It is evident from the table that only a minority of graduates perceived the level of their preparation in lesson presentation as being low (1 and 2 rating). Only four items were considered by about one quarter of the graduates as having been poorly treated. These included: (a) adapting to unexpected teaching situations (25.6%); (b) utilizing technological equipment to foster effective learning (25.6%); (c) displaying thorough knowledge of subject matter (23.3%); and (d) presenting evidence in controversial issues (23.3%) (see Figure 11).

Interpersonal Relationships

The level of preparation for the majority of items comprising the interpersonal relationships category was shown to be relatively lower than that of the other categories. Only three items out of 12, for instance, received a mean rating equal to or greater than 4.

Table 29 also reveals that the level of preparation

Table 28

Graduates' Ratings of Their Perceived Level of Preparation in Lesson Presentation and Percent Rating Level of Preparation Low

Statement of Skills, Attitudes and Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Low
1) Using effective questioning techniques	4.11	11.7
2) Using wit and humour effectively	3.63	9.3
3) Encouraging class discussion	4.23	4.7
4) Sequencing instructional activities	4.00	11.6
5) Maintaining an environment conducive to learning	3.71	16.3
6) Adapting to unexpected teaching situations	3.20	25.6
7) Utilizing technological equipment to foster effective learning	3.40	25.6
8) Relating to students' experience	4.21	7.0
9) Continually varying the learning situation in order to keep the students involved	4.17	7.0
10) Effectively reinforcing certain kinds of student behaviour	4.26	4.6
11) Using valid approaches in teaching	4.10	9.3
12) Making difficult topics easy to understand	3.92	16.3

(. . . cont'd)

Table 28 (cont'd)

Statement of Skills, Attitudes and Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Low
13) Explaining things thoroughly	3.92	9.3
14) Presenting reinforcement promptly	4.35	11.7
15) Maintaining the pace of a lesson	3.90	14.0
16) Displaying thorough knowledge of subject matter	3.73	23.3
17) Summarizing major points	4.20	14.0
18) Individualizing instruction	3.45	18.7
19) Presenting evidence in controversial issues	3.66	23.3
20) Referring students to additional resource persons and materials	4.37	7.0
21) Generating enthusiasm	3.97	9.4
22) Providing varied learning experiences for achieving objectives	4.11	11.7

*Maximum Rating = 5.00.

$G\bar{X}$ = 3.92.

A Comparison of Graduates' Ratings of
Importance and Level of Preparation
in Lesson Presentation

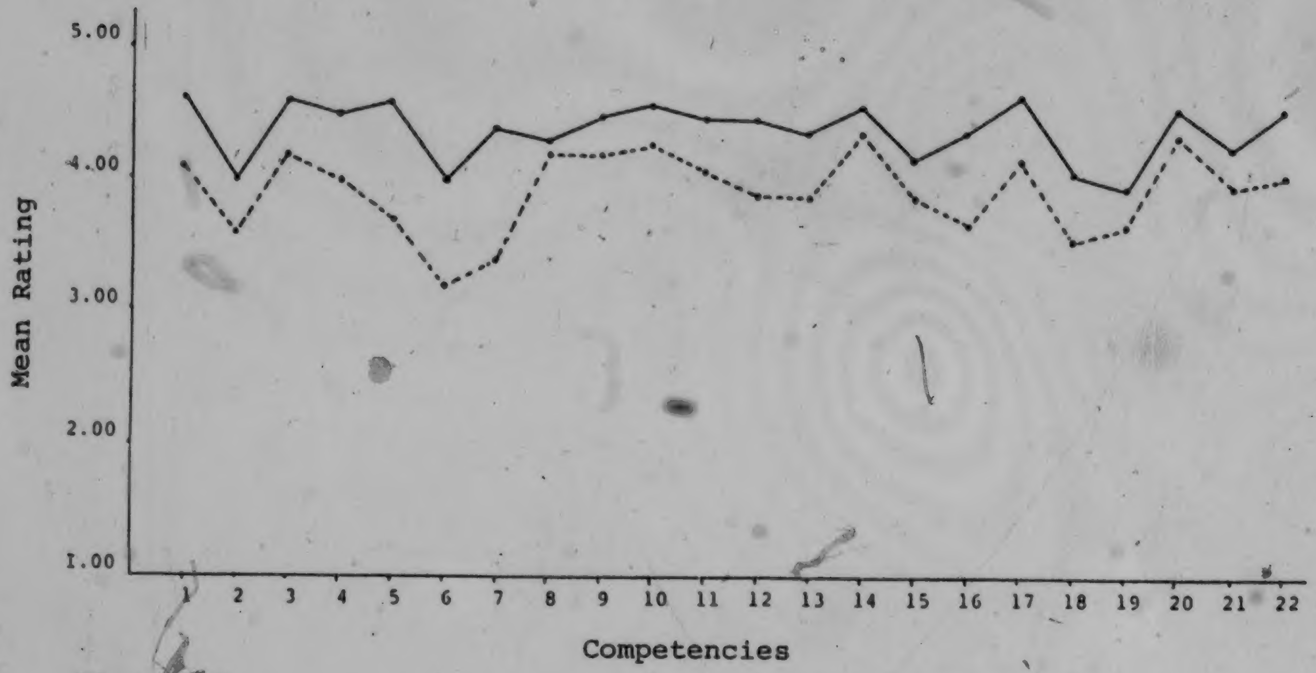

Figure 11.

for two items was considered to be low by as much as 30 percent of the responding graduates. The Grand Mean for the category is, however, consoling ($G\overline{X}$ = 3.92). It indicates a relatively adequate level of preparation.

Table 29

Graduates' Ratings of Their Perceived Level of Preparation in Interpersonal Relationships and Percent Rating Level of Preparation Low

Skills, Attitudes, Knowledge	* Mean Ratings of Level of Preparation	Percentage Rating Preparation Low
1) Showing warmth and sympathy to students	4.00	7.0
2) Developing positive relationships with students	3.97	11.7
3) Conveying confidence in and respect for student	3.87	16.3
4) Being sensitive to students' needs and feelings	3.85	21.0
5) Motivating students	4.25	7.0
6) Working well with other teachers and clinical instructors	3.92	9.3
7) Showing genuine interest in what students say	4.02	9.4
8) Working well with administrators	3.70	16.3
9) Interacting well with faculty from other disciplines	3.61	16.3
10) Assisting students to develop their own values, attitudes and beliefs	3.26	30.3
11) Being accessible to students out of class	3.05	32.5
12) Participating on interdepartmental committees	3.69	20.9

$G\overline{X}$ = 3.92.
* Rating = 5.00.

A Comparison of Graduates' Ratings of
Importance and Level of Preparation
in Interpersonal Relationships

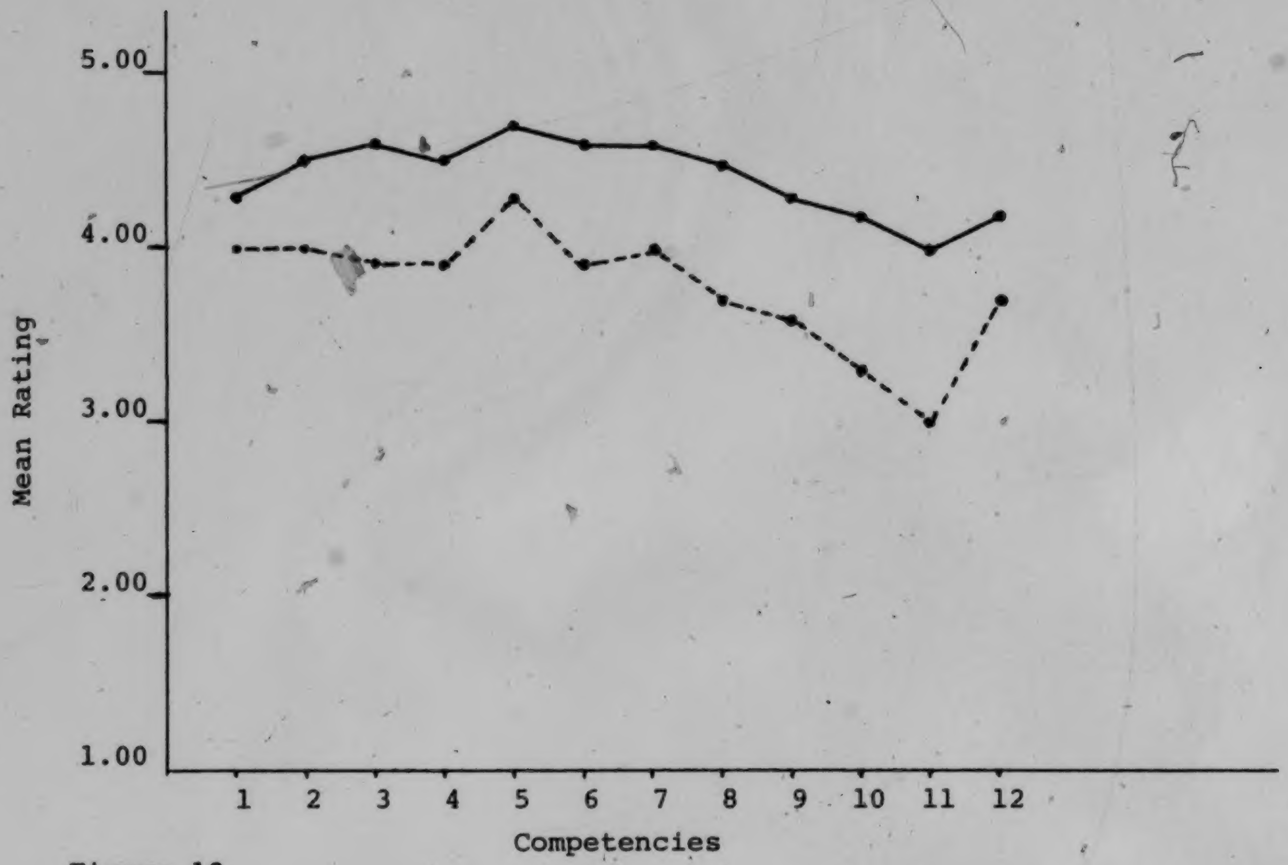

Figure 12.

Assessment

The graduates indicated a high level of preparation in 11 of the 19 aspects of the assessment category. Five aspects were more prominent: evaluating student achievement ($\overline{X} = 4.60$); constructing examinations ($\overline{X} = 4.42$); providing prompt feedback on examinations and assignments ($\overline{X} = 4.39$); monitoring students' progress ($\overline{X} = 4.27$); and grading examinations ($\overline{X} = 4.22$). The percentage of graduates rating the level of preparation low in these aspects was meagre, ranging from 2.3 percent to 7.0 percent.

Of the eight aspects of assessment receiving low mean ratings, two were most conspicuous: identifying need for diagnostic testing ($\overline{X} = 3.55$); and recognizing special achievement ($\overline{X} = 3.55$). The percentage of graduates rating the level of preparation low for these aspects was 21 percent and 16.3 percent, respectively (see Table 30). The items were also rated on the Importance scale (see Fig. 13).

Miscellaneous Category

The data presented in Table 31 and Figure 14 show a varied rating of the level of preparation by the graduates in the various skills, attitudes and knowledge comprising the miscellaneous category. In general, the responding graduates considered themselves to have been highly prepared in the following skills, attitudes or knowledge: (a) understanding and applying various teaching methods ($\overline{X} = 4.53$); (b) developing curricula for one's discipline ($\overline{X} = 4.19$); (c) understanding and applying curriculum theories ($\overline{X} = 4.11$); (d) conducting

Table 30

Graduates' Ratings of Their Perceived Level of Preparation in Assessment and Percent Rating Level of Preparation Low

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percentage Rating Preparation Low
1) Evaluating student achievement	4.60	2.3
2) Diagnosing students' learning needs	4.11	11.7
3) Monitoring students' progress	4.27	4.7
4) Evaluating one's (teacher's) progress	3.81	14.0
5) Constructing examinations	4.42	2.3
6) Understanding evaluation theories	4.20	9.3
7) Grading examinations	4.22	4.6
8) Analyzing test items for the sake of accumulating valid and reliable question tools	3.95	14.0
9) Evaluating clinical performance	4.14	7.0
10) Providing prompt feedback on examinations and assignments	4.31	7.0
11) Identifying need for diagnostic testing	3.55	21.0
12) Giving tests that are pertinent to course objectives	4.39	7.0

(. . . cont'd)

Table 30 (cont'd)

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percentage Rating Preparation Low
13) Being fair in evaluations	4.09	9.3
14) Telling students when they have done well	4.21	4.7
15) Reviewing tests with students	4.02	7.0
16) Being concerned with learning rather than testing	3.81	11.7
17) Correcting students promptly	3.94	9.3
18) Recognizing special achievement	3.55	16.3
19) Interpreting diagnostic test results	3.82	16.3

*Maximum Rating = 5.00.

G$\overline{X}$ = 4.16.

A Comparison of Graduates' Ratings of
Importance and Level of Preparation
in Assessment

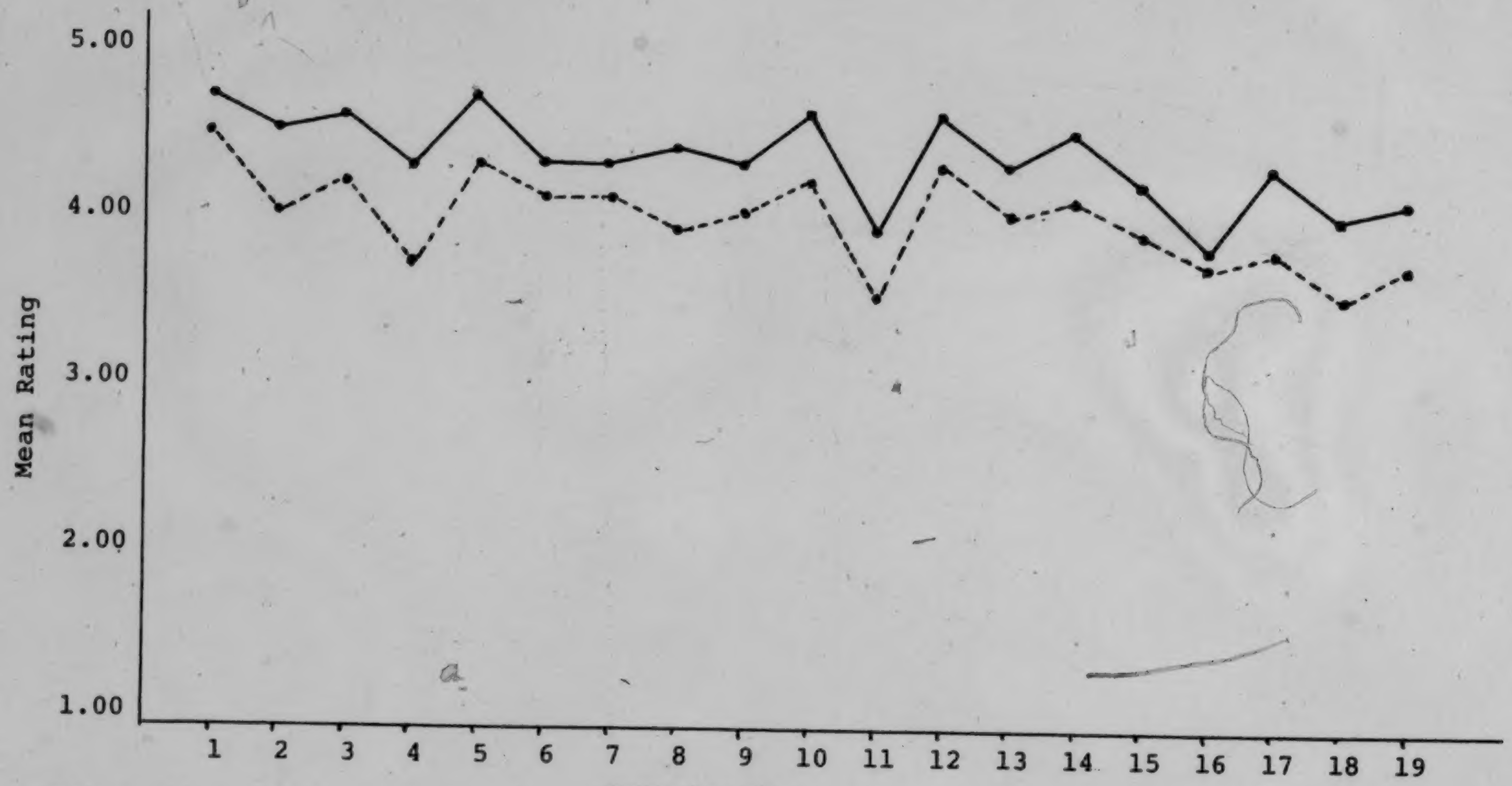

Figure 13.

Table 31

Graduates' Ratings of Their Perceived Level of Preparation in Miscellaneous Skills, Attitudes, and Knowledge and Percent Rating Level of Preparation Low

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Low
1) Understanding and applying curriculum theories	4.11	9.3
2) Conducting research	4.05	4.7
3) Developing curricula for one's discipline	4.19	4.6
4) Understanding and applying various teaching methods	4.53	4.7
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	3.88	18.6
6) Appreciating educational psychology	3.95	11.7
7) Understanding statistical concepts	3.63	7.0
8) Utilizing various research methods	3.53	18.6
9) Using critical incident technique to derive course objectives	3.35	11.7
10) Using group dynamic skills	3.67	18.7
11) Utilizing statistical procedures in classroom record keeping	3.32	23.0
12) Appreciating student counselling	3.36	23.3

(. . . cont'd)

Table 31 (cont'd)

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Low
13) Utilizing management theories to foster classroom discipline	3.64	18.6
14) Understanding sociology of education	3.32	20.9
15) Developing teaching manuals	3.53	20.9
16) Making efficient use of class time	3.82	11.6
17) Maintaining classroom order	3.71	16.3
18) Identifying classroom misbehaviour	3.70	12.0
19) Developing a system for keeping class records	3.38	23.3
20) Grouping students for instruction	3.90	11.7
21) Arranging the classroom environment	3.48	25.6
22) Identifying and developing a system for recording individual student progress	3.82	12.0
23) Employing effective techniques to correct classroom behaviour	3.42	25.6
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	4.02	11.7

*Maximum Rating = 5.00.

$G\overline{X}$ = 3.82.

A Comparison of Graduates' Ratings of
Importance and Level of Preparation
in Miscellaneous Category

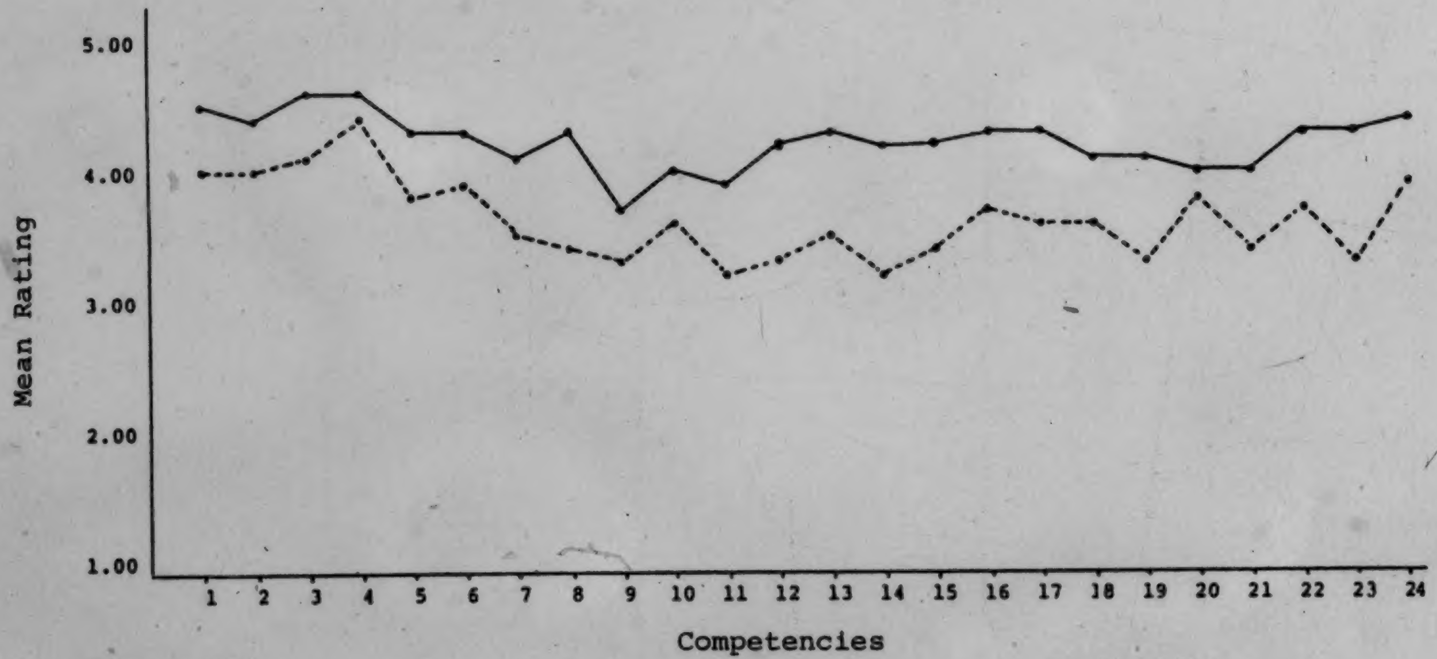

Figure 14.

research ($\overline{X} = 4.05$); and (e) defining instructional objectives that are consistent with the school's educational philosophy and mission ($\overline{X} = 4.02$).

These data show a generally adequate level of preparation--Grand Mean ($G\overline{X} = 3.82$)--in this category. It is notable, however, that the level of preparation in five items (skills, attitudes or knowledge) was rated low by 23 to 25 percent of the responding graduates. The items were: (a) utilizing statistical procedures in classroom record keeping ($\overline{X} = 3.31$); (b) understanding sociology of education ($\overline{X} = 3.32$); (c) appreciating student counselling ($\overline{X} = 3.36$); (d) developing a system for keeping classroom records ($\overline{X} = 3.38$); and (e) employing effective techniques to correct classroom behaviour.

Professional Awareness

Table 32 shows the graduates' mean rating of their perceived level of preparation and the percentage (of graduates) rating the level of preparation in professional awareness low. Despite the relatively high percentages showing a low level of preparation--ranges from 11.6 percent to 20.9 percent--the Grand Mean for the whole category is indicative of a high level of preparation ($G\overline{X} = 4.07$).

Discussion

The graduates generally perceived the level of preparation received in the teacher education program as being adequate. All items received a three or better mean rating

Table 32

Graduates' Ratings of Their Perceived Level of Preparation in Professional Awareness and Percent Rating Level of Preparation Low

Skills, Attitudes Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Low
1) Displaying interest in professional association	3.80	11.6
2) Participating in the management of one's department/ faculty	4.00	16.3
3) Reading professional publications	4.00	13.9
4) Displaying concern for continuing professional education	3.95	18.6
5) Displaying commitment to the teaching of the profession	3.97	14.0
6) Maintaining contact with practitioners of one's profession	3.70	20.9

*Maximum Rating = 5.00.

$G\overline{X}$ = 4.07.

A Comparison of Graduates' Ratings of
Importance and Level of Preparation
in Professional Awareness

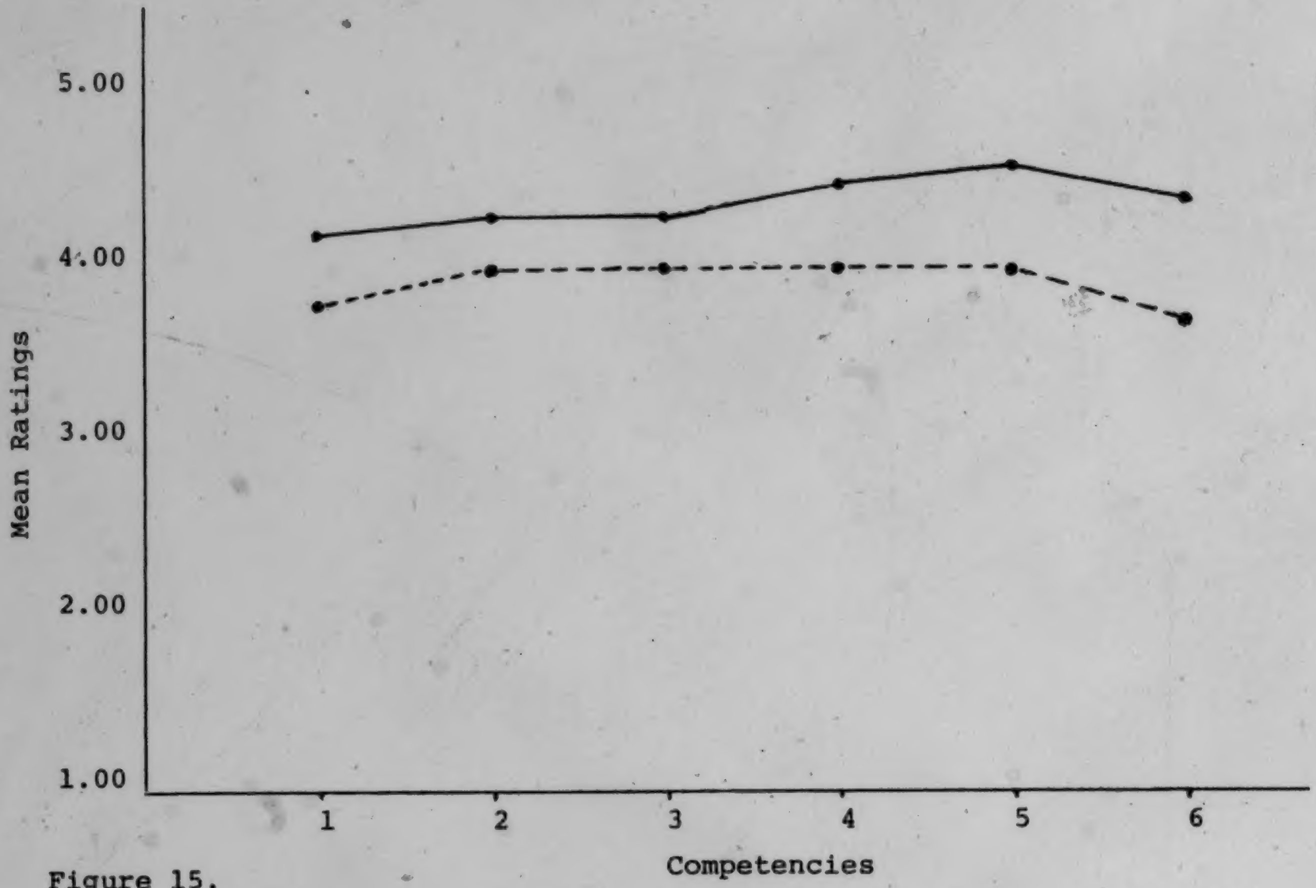

Figure 15.

on the level of preparation scale. Some items, however, were perceived as having received a less than adequate treatment. Large discrepancies between the perceived level of importance and preparation were evident in several skills, attitudes, and knowledge (competencies).

These skills, attitudes or knowledge were distributed within six of the seven general areas comprising the questionnaire. The items included: organizing course content in a way that is understandable to students (item #5, lesson preparation); selecting appropriate teaching materials (item #11, lesson preparation); preparing appropriate teaching aids (item #13, lesson preparation); adapting to unexpected teaching situations (item #6, lesson presentation); utilizing technological equipment to foster effective learning (item #7, lesson presentation); displaying thorough knowledge of subject matter (item #16, lesson presentation); making difficult topics easy to understand (item #12, lesson presentation); being sensitive to students' needs and feelings (item #4, interpersonal relationships); assisting students to develop their own values, attitudes, and beliefs (item #10, interpersonal relationships); being accessible to students out of class (item #11, interpersonal relationships); participating on interdepartmental committees (item #12, interpersonal relationships); evaluating one's (teacher's) progress (item #4, assessment); utilizing various research methods (item #8, miscellaneous category);

appreciating student counselling (item #12, miscellaneous category); understanding sociology of education (item #14, miscellaneous category); developing teaching manuals (item 15, miscellaneous category); developing a system for keeping class records (item #19, miscellaneous category); arranging classroom environment (item #21, miscellaneous category); employing effective techniques to correct classroom behaviour (item #23, miscellaneous category); and maintaining contact with practitioners of one's profession (item #6, professional awareness).

Some of the areas represented in the above analysis are critical areas to the classroom teaching role of a teacher. Indeed, they encompass the "survival skills" of a teacher (lesson preparation, lesson presentation and evaluation). It therefore goes without saying that inadequate treatment of the skills, attitudes, and knowledge in these areas is tantamount to production of mediocre if not ineffective teachers.

Two further analyses were conducted to explore this possibility. First, the overall importance ranking of the items was examined (see Appendix D). It was found that the only highly ranked items were: displaying thorough knowledge (ranked 23rd), being sensitive to students' needs and feelings (ranked 19th), and utilizing technological equipment to foster effective learning (ranked 27th).

Second, the Importance Mean Ratings and the Level of Preparation Mean Ratings were compared. The Importance

Mean Ratings were found to be, in general, much higher than the Level of Preparation Mean Ratings (see Appendix D). A t-test revealed several statistically significant differences between Importance Mean Ratings and Level of Preparation Mean Ratings. Only six out of the 103 skills, attitudes and knowledge comprising Section II of the questionnaire were rated the same, i.e., the Importance Mean Ratings and the Level of Preparation Mean Ratings were not statistically different at $\alpha = 0.05$. The six items were:

1. Stating instructional objectives in behavioural terms (item #5, lesson preparation);
2. Relating to students' experience (item #8, lesson presentation);
3. Presenting reinforcement promptly (item #14, lesson presentation);
4. Maintaining the pace of a lesson (item #15, lesson presentation);
5. Evaluating student achievement (item #1, assessment);
6. Understanding evaluation (item #6, assessment); and
7. Being concerned with learning rather than testing (item #16, assessment).

Three of these items (all of which represent the critical areas of lesson preparation, lesson presentation, and assessment) were highly ranked in importance. This, to note the obvious, negates the supposition raised earlier that "survival skills" of the classroom teacher were inadequately treated in the teacher preparation program.

While the positive tendency to evaluate highly the level of preparation in the various skills, attitudes, and knowledge is good news, the consistent discrepancy between Importance Mean Rating and Level of Preparation Mean Rating should raise a few fundamental questions regarding the preparation of allied health teachers. Is the discrepancy an expression of unfulfilled promises and expectations? Or is it an indication of a rather mediocre performance of the program in fostering the skills, attitudes and knowledge deemed necessary for the teaching of allied health?

The Grand Mean ($G\bar{X}$) ratings for the seven areas, as is evident in Table 33, show an adequate level of preparation. Three areas were, however, highly rated: lesson preparation, assessment, and professional awareness.

The general tendency to rate the importance of the skills, attitudes and knowledge higher than the level of preparation was also notable when the Grand Means for the seven areas were examined. A t-test confirmed statistically significant differences in six areas. The Importance Mean Rating and the Level of Preparation Mean Rating for Professional Awareness were not statistically significantly different at $\alpha = 0.05$ (see Table 33).

Table 33

Comparison of Importance Mean Ratings and Level of Preparation Mean Ratings - t-test

Areas	Mean Importance	Mean Rating Level of Preparation	t Value	P
Lesson Preparation	4.41	4.01	4.67	0.00**
Communication	4.48	3.96	3.26	0.002**
Lesson Presentation	4.40	3.92	4.21	0.00**
Interpersonal Relationships	4.37	3.92	3.17	0.003**
Miscellaneous	4.32	3.82	4.70	0.00**
Assessment	4.43	4.16	3.34	0.002**
Professional Awareness	4.38	4.07	1.82	0.07 NS

**Statistically significant $\alpha = 0.01$.

NS Not Statistically significant $\alpha = 0.05$.

Subproblem 4

> To what extent did the supervisors of the graduates (heads of departments/faculties) perceive the program as having assisted their instructional staff (graduates only) in developing skills, attitudes, and knowledge deemed necessary for effective teaching?

The data necessary for the resolution of Subproblem 4 were obtained from the supervisors' responses to Section II(b) of their questionnaire. In this section, they (supervisors) were asked to indicate, using a five-point scale--with categories 1(Very Poor), 2(Poor), 3(Adequate), 4(Well), and 5(Very Well)--the extent to which they felt that the graduates of the Allied Health Teacher Education Program (who were members of the instructional staff in their respective departments/faculties) were prepared in the 103 skills, attitudes and knowledge comprising Section II.

Tables 34 to 40 show the supervisors' mean ratings of their perceived level of graduates' preparation and the percent of supervisors who rated the level of preparation low for items comprising lesson preparation, communication, lesson presentation, assessment, miscellaneous category, interpersonal relationships, and professional awareness. Figures 16 to 22 show the discrepancies between the supervisors' rating of importance and level of preparation.

Lesson Preparation

The overall mean rating of the items in this area indicated a more than adequate level of preparation in the 16 competencies (skills, attitudes and knowledge). All items received mean ratings ranging from 3.25 to 4.12.

The items receiving the lowest mean ratings were: (a) item #6, defining the objectives of particular lessons and units in terms of student behaviours ($\overline{X} = 3.25$); and (b) item #13, preparing appropriate teaching aids ($\overline{X} = 3.25$).

Three items received mean ratings of four and higher. These were: (a) item #7, planning instructional activities ($\overline{X} = 4.12$); (b) item #4, organizing course content in a fashion that is understandable to students ($\overline{X} = 4.00$); and (c) item #8, selecting appropriate subject content ($\overline{X} = 4.00$). There seemed to be a general agreement among the supervisors that the graduates were well prepared in these three competencies (100% indicated adequate, well, or very well level of preparation).

As is shown in Table 34, all the supervisors were of the opinion that the graduates were adequately prepared in: (a) judging the appropriateness of instructional materials; (b) seeking and using the assistance of educational specialists or planning when appropriate; (c) applying accepted principles of adult learning in the design of instructional strategies; (d) determining learner characteristics; and (e) involving students in the process of defining objectives.

Communication

The supervisors perceived the preparation that their members of instructional staff (graduates) received in the general area of communication as being adequate. One of the

Table 34

Supervisors' Mean Ratings of the Level of Preparation of Graduates in Lesson Preparation and Percent of Supervisors Rating Preparation Poor or Very Poor

Skills, Attitudes, Knowledge	Mean Ratings* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
1) Judging the appropriateness of instruction materials	3.62	0.0
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training	3.50	12.5
3) Selecting appropriate methods of teaching	3.75	12.5
4) Organizing course content in a fashion that is understandable to students	4.00	0.0
5) Stating instructional objectives in behavioral terms	3.37	12.5
6) Defining the objectives of particular lessons and units in terms of student behaviors	3.25	12.5
7) Planning instructional activities	4.12	0.0
8) Selecting appropriate subject content	4.00	0.0
9) Preparing lesson plans	3.50	12.5
10) Selecting appropriate content from a large body of expanding knowledge	3.50	12.5
11) Selecting appropriate teaching materials	3.75	12.5

(. . . cont'd)

Table 34 (cont'd)

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
12) Seeking and using the assistance of educational specialists or planning when appropriate	3.62	0.0
13) Preparing appropriate teaching aids	3.25	25.0
14) Applying accepted principles of adult learning in the design of instructional strategies	3.75	0.0
15) Determining learner characteristics	3.87	0.0
16) Involving students in the process of defining objectives	3.75	0.0

*Maximum Rating = 5.00.

$G\overline{X}$ = 3.66.

A Comparison of Supervisors' Ratings of
Importance and Level of Preparation
in Lesson Preparation

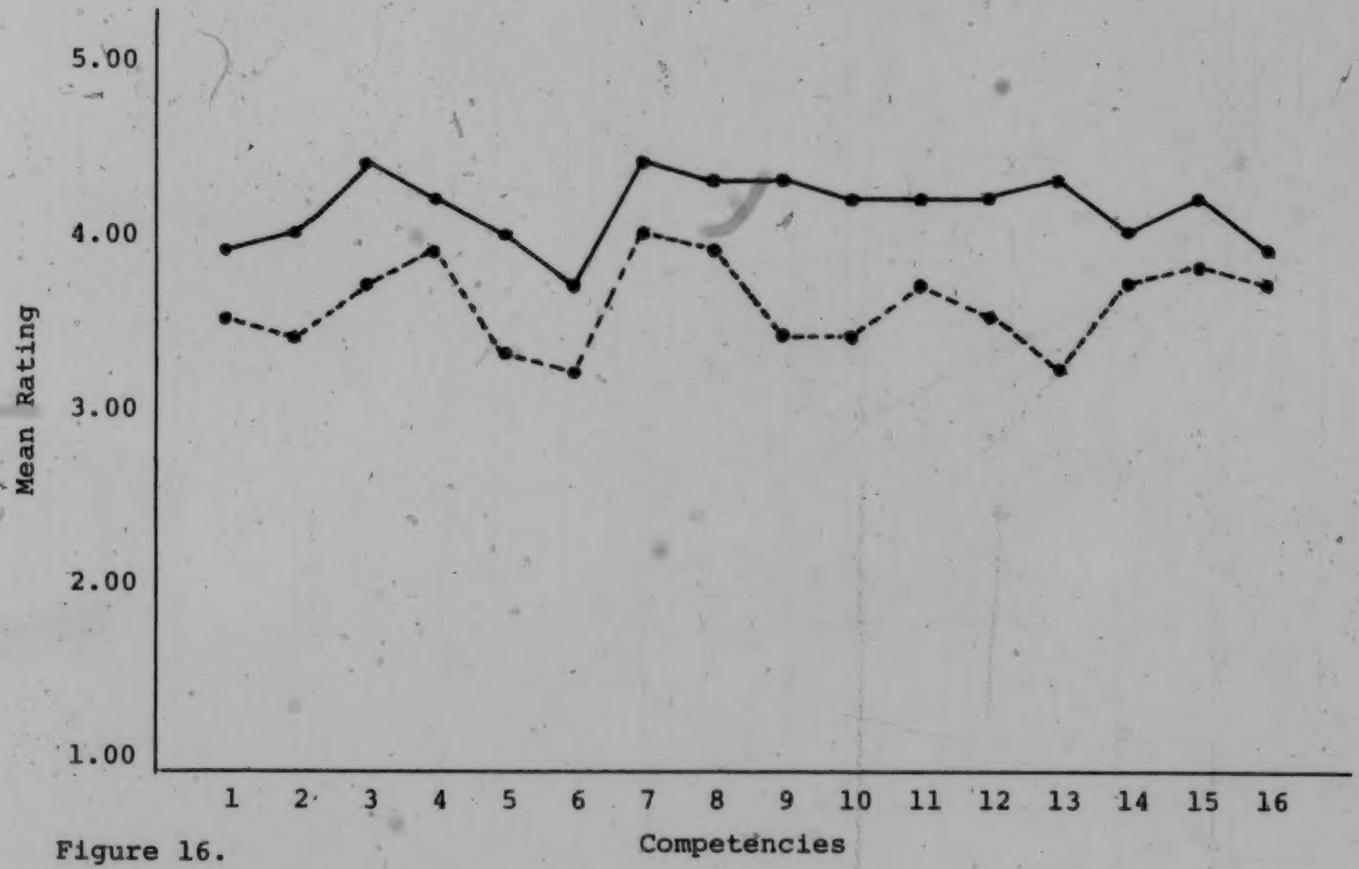

Figure 16.

four competencies comprising the section received a mean rating of 4.62, the highest mean rating in the whole instrument. The other three received the same mean rating ($\bar{X}$ = 3.87).

One important thing to note from the percentage column in Table 35 is the implied consensus on the level of preparation in this general area. All respondents (supervisors) considered the graduates as adequately (3), well (4), or very well (5) prepared in this area.

Table 35

Supervisors' Mean Ratings of Level of Preparation of Graduates in Communication and Percent of Supervisors' Rating Preparation Poor or Very Poor

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
1) Orally communicating information on a given topic in a coherent, logical manner	3.87	0.0
2) Writing in a logical, easily understood style with appropriate grammar and sentence structure	3.87	0.0
3) Comprehending and correctly interpreting a message after listening	3.87	0.0
4) Ability to read, comprehend, and interpret professional material	4.62	0.0

*Maximum Rating = 5.00.

G$\bar{X}$ = 4.06.

A Comparison of Supervisors' Ratings of
Importance and Level of Preparation
in Communication

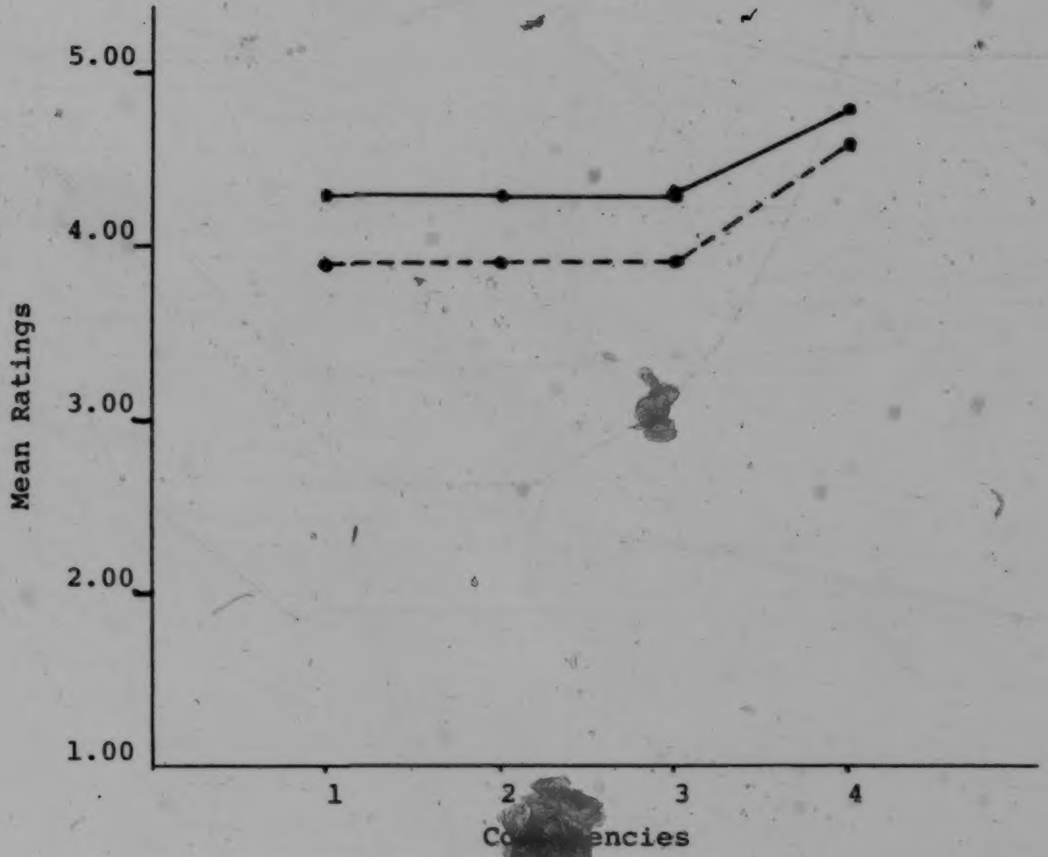

Figure 17.

Lesson Presentation

The mean ratings and percentages shown in Table 36 attest to the supervisors' positive feelings toward the nature of preparation that the graduates of the Teacher Education Program received in the general area of lesson presentation. The data reveal the supervisors' tendency to view the preparation accorded the graduates in the various competencies as adequate or better. Mean ratings for the 22 items ranged from 3.28 (lowest) to 4.25 (highest).

Eight competencies received mean ratings of four and higher: (a) item #14, presenting reinforcement promptly ($\overline{X}$ = 4.28); (b) item #16, displaying thorough knowledge of subject matter ($\overline{X}$ = 4.28); (c) item #5, maintaining an environment conducive to learning ($\overline{X}$ = 4.14); (d) item #13, explaining things thoroughly ($\overline{X}$ = 4.14); (e) item #15, maintaining the pace of a lesson ($\overline{X}$ = 4.14); (f) item #9, continually varying the learning situation in order to keep the students involved ($\overline{X}$ = 4.00); (g) item #17, summarizing major points ($\overline{X}$ = 4.00); and (h) item #20, referring students to additional resource persons and materials ($\overline{X}$ = 4.00).

The two competencies receiving the lowest mean ratings were: item #8, relating to students' experience ($\overline{X}$ = 3.28); and item #6, adapting to unexpected classroom situations ($\overline{X}$ = 3.42). The items also received the lowest mean ratings on the importance scale--item #8 ($\overline{X}$ = 4.14) and item #6 ($\overline{X}$ = 4.00).

Table 36

Supervisors' Mean Ratings of Level of Preparation of Graduates in Lesson Presentation and Percent Rating Preparation Poor or Very Poor

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
1) Using effective questioning techniques	3.71	0.0
2) Using wit and humour effectively	3.71	0.0
3) Encouraging class discussion	3.71	12.5
4) Sequencing instructional activities	3.85	12.5
5) Maintaining an environment conducive to learning	4.14	12.5
6) Adapting to unexpected classroom situations	3.42	12.5
7) Utilizing technological equipment to foster effective learning	3.71	12.5
8) Relating to students' experience	3.28	25.0
9) Continually varying the learning situation in order to keep the students involved	4.00	0.0
10) Effectively reinforcing certain kinds of student behaviour	3.71	25.0
11) Using valid approaches in teaching	3.71	25.0

(. . . cont'd)

Table 36 (cont'd)

Skills, Attitudes Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
12) Making difficult topics easy to understand	3.85	0.0
13) Explaining things thoroughly	4.14	0.0
14) Presenting reinforcement promptly	4.28	0.0
15) Maintaining the pace of a lesson	4.14	0.0
16) Displaying thorough knowledge of subject matter	4.28	0.0
17) Summarizing major points	4.00	0.0
18) Individualizing instruction	3.57	12.5
19) Presenting evidence in controversial issues	3.85	0.0
20) Referring students to additional resource persons and materials	4.00	12.5
21) Generating enthusiasm	3.85	0.0
22) Providing varied learning experiences for achieving objectives	3.71	0.0

*Maximum Rating = 5.00.

$G\bar{X}$ = 3.85.

A Comparison of Supervisors' Ratings of
Importance and Level of Preparation
in Lesson Presentation

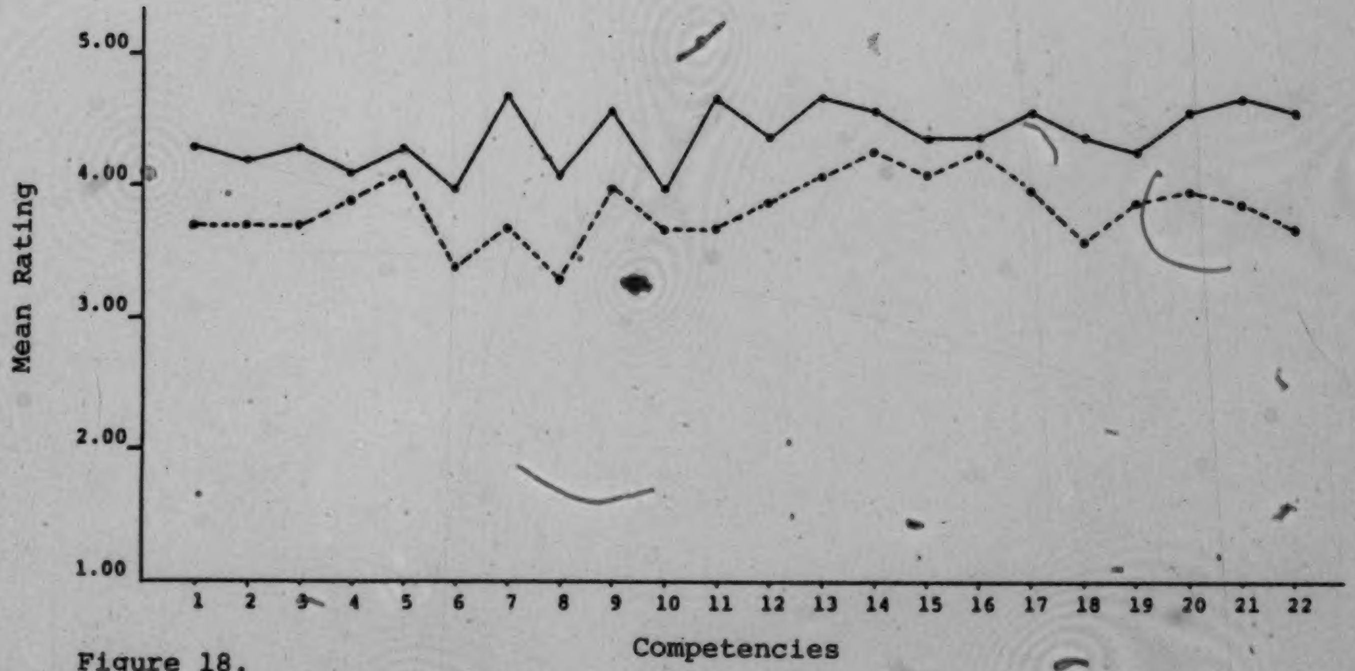

Figure 18.

Assessment

The level of preparation accorded the graduates in the 19 competencies under the assessment category seem to have been rated best. Fourteen competencies obtained mean ratings of 4 and above, meaning that the graduates were "well" or "very well" prepared in the competencies. For the five items receiving mean ratings lower than 4, the range was between 3.62 (lowest) and 3.87 (highest). The range is indicative of an adequate level of preparation or better.

Table 37 presents supervisors' assessment of the level of preparation of the graduates in the 19 competencies and the percent of supervisors rating the competencies "poor" or "very poor."

Miscellaneous Category

In contrast to the competencies comprising the assessment category, the level of preparation in the competencies under the miscellaneous category seems to have been rated less favourably overall. Only six competencies out of 24 were accorded mean ratings of 4 or above. The rest received ratings ranging from 3.00 to 3.87 (see Table 38).

The six competencies accorded mean ratings of 4 or above were: item #7, understanding statistical concepts ($\overline{X}$ = 4.37); item #5, developing simple instructional materials--audiotapes, overhead transparencies, etc. ($\overline{X}$ = 4.12); Item #8, utilizing various research methods ($\overline{X}$ = 4.12);

Table 37

Supervisors' Mean Ratings of the Level of Preparation of Graduates in Assessment and Percent Rating Preparation Poor or Very Poor

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
1) Evaluating student achievement	4.12	0.0
2) Diagnosing students' learning needs	4.25	0.0
3) Monitoring students' progress	4.00	12.5
4) Evaluating one's (teacher's) progress	4.12	12.5
5) Constructing examinations	4.12	12.5
6) Understanding evaluation theories	4.62	0.0
7) Grading examinations	4.25	0.0
8) Analyzing test items for the sake of accumulating valid and reliable question tools	3.75	12.5
9) Evaluating clinical performance	4.37	0.0
10) Providing prompt feedback on examinations and assignments	4.12	0.0
11) Identifying need for diagnostic testing	4.28	12.5
12) Giving tests that are pertinent to course objectives	4.25	0.0

(. . . cont'd)

Table 37 (cont'd)

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
13) Being fair in evaluations	4.00	0.0
14) Telling students when they have done well	4.12	0.0
15) Reviewing tests with students	4.00	0.0
16) Being concerned with learning rather than testing	3.75	12.5
17) Correcting students promptly	3.87	12.5
18) Recognizing special achievement	3.62	12.5
19) Interpreting diagnostic test results	3.62	25.0

*Maximum Rating = 5.00.

$G\overline{X} = 3.88$.

A Comparison of Supervisors' Ratings of Importance and Level of Preparation in Assessment

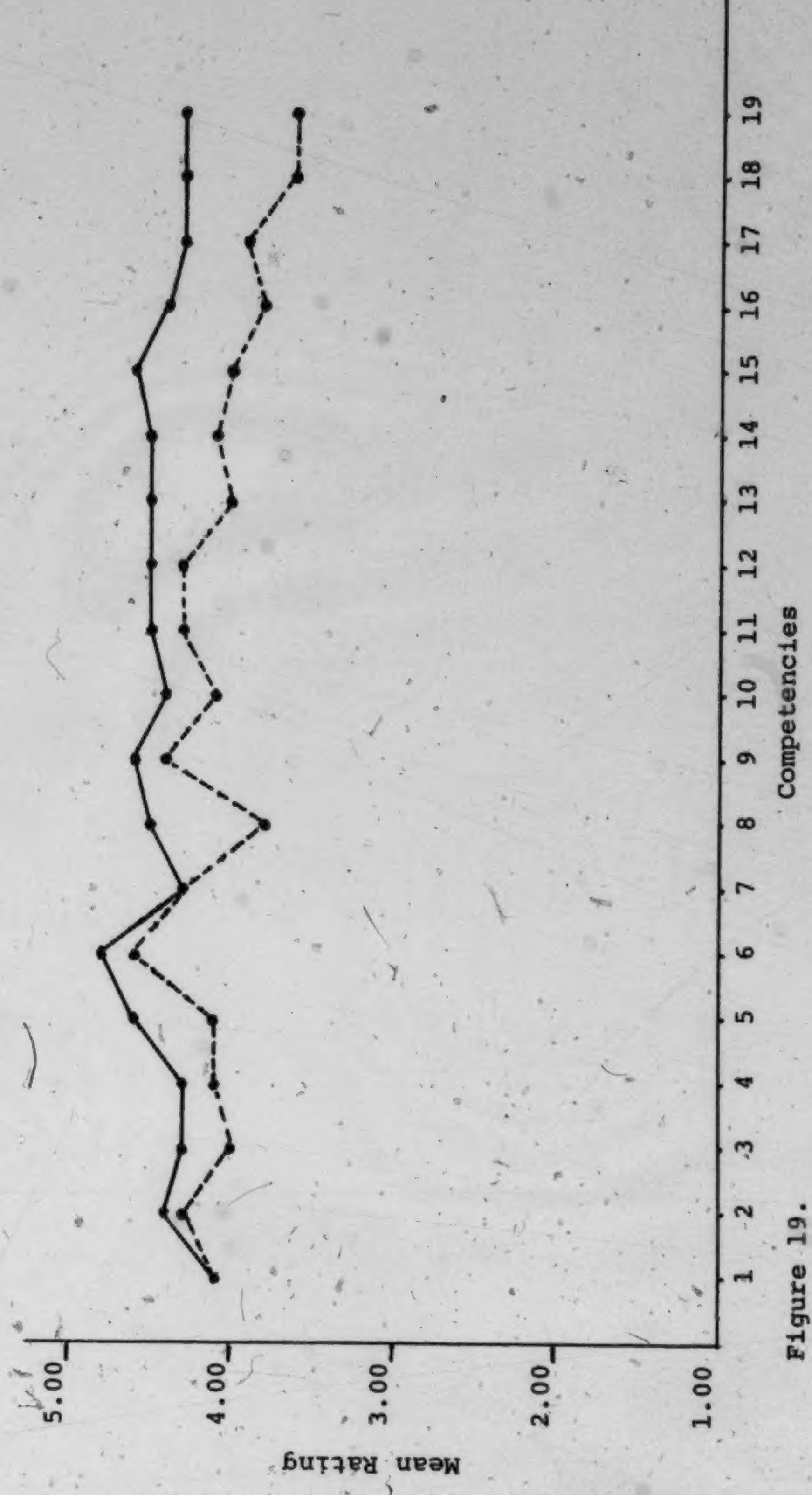

Figure 19.

Table 38

Supervisors' Ratings of Level of Preparation of Graduates in Miscellaneous Skills, Attitudes, and Knowledge and Percent Rating Preparation Poor or Very Poor

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
1) Understanding and applying curriculum theories	3.62	12.5
2) Conducting research	3.87	12.5
3) Developing curricula for one's discipline	3.50	12.5
4) Understanding and applying various teaching methods	3.75	12.5
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	4.12	0.0
6) Appreciating educational psychology	4.00	0.0
7) Understanding statistical concepts	4.37	0.0
8) Utilizing various research methods	4.12	12.5
9) Using critical incident technique to derive course objectives	4.00	12.5
10) Using group dynamic skills	3.62	12.5
11) Utilizing statistical procedures in classroom record keeping	4.00	12.5
12) Appreciating student counselling	3.75	0.0

(. . . cont'd)

Table 38 (cont'd)

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
13) Utilizing management theories to foster classroom discipline	3.25	12.5
14) Understanding sociology of education	3.50	12.5
15) Developing teaching manuals	3.75	12.5
16) Making efficient use of class time	3.50	12.5
17) Maintaining classroom order	3.00	37.5
18) Identifying classroom misbehaviour	3.87	0.0
19) Developing a system for keeping class records	3.25	0.0
20) Grouping students for instruction	3.37	0.0
21) Arranging the classroom environment	3.28	12.5
22) Identifying and developing a system for recording individual student progress	3.75	0.0
23) Employing effective techniques to correct classroom behaviour	3.25	12.5
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	3.62	25.0

*Maximum Rating = 5.00.

$G\overline{X}$ = 3.55.

A Comparison of Supervisors' Ratings of
Importance and Level of Preparation
on Miscellaneous Category

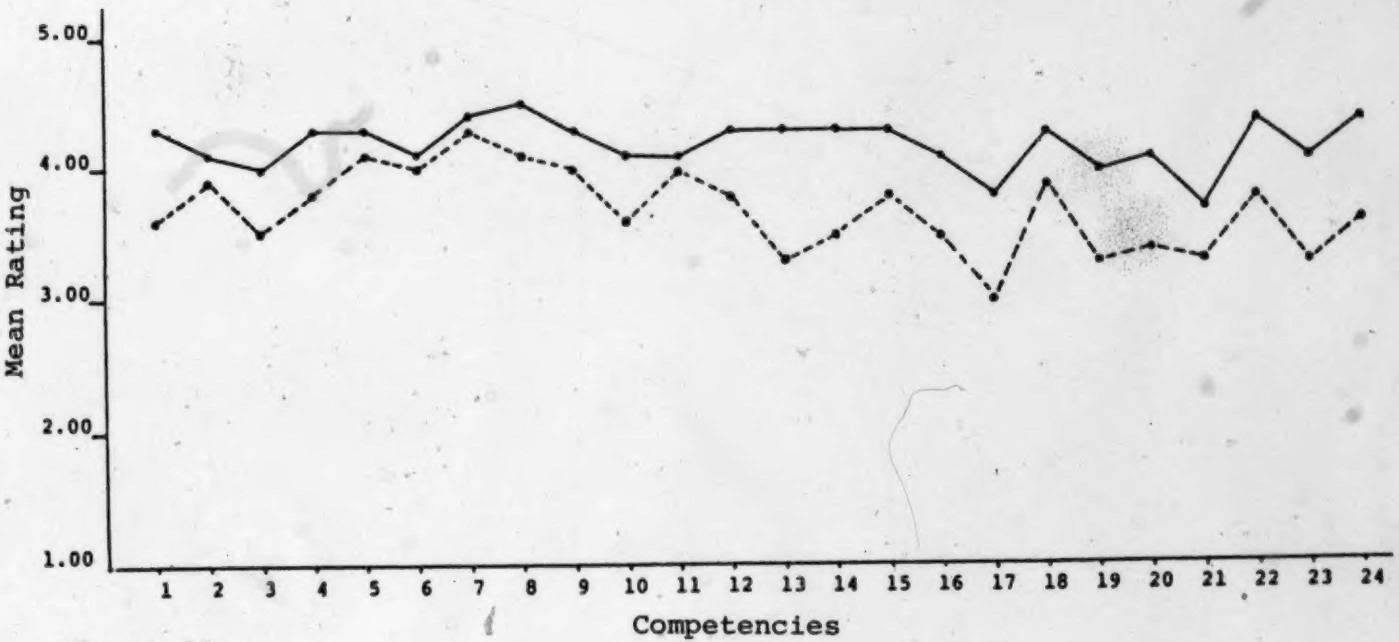

Figure 20.

item #6, appreciating educational psychology ($\overline{X}$ = 4.00); item #9, using critical incident technique to derive objectives ($\overline{X}$ = 4.00); and item #11, utilizing statistical procedures in classroom record keeping ($\overline{X}$ = 4.00).

Of the items receiving lower mean ratings, two were rated highly on the Importance Scale. These were: item #22, identifying and developing a system for recording individual student progress (Importance Mean Rating = 4.37 vis-a-vis $\overline{X}$ = 3.62 for Level of Preparation Mean Rating); and item #24, defining instructional objectives that are consistent with the school's educational philosophy and mission (Importance Mean Rating = 4.37 vis-a-vis $\overline{X}$ = 3.62 for level of preparation) (see Appendix).

Overall, the supervisors perceived the graduates' level of preparation in the 24 competencies comprising this category as being generally adequate.

Interpersonal Relationships

As the data in Table 39 reveal, ratings of the graduates' level of preparation in interpersonal relationships by their supervisors tended on the average to fall between "adequate" and "well." Only three competencies had means of 4 or above. These were: item #6, working well with other teachers and clinical instructors ($\overline{X}$ = 4.37); item #4, being sensitive to students' needs and feelings ($\overline{X}$ = 4.00); and item #12, participating on inter-departmental committees ($\overline{X}$ = 4.00).

Table 39

Supervisors' Ratings of Level of Preparation of Graduates in Interpersonal Relationships and Percent Rating Preparation Poor or Very Poor

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
1) Showing warmth and sympathy to students	3.37	12.5
2) Developing positive relationships with students	3.37	0.0
3) Conveying confidence in and respect for student	3.75	12.5
4) Being sensitive to students' needs and feelings	4.00	0.0
5) Motivating students	3.75	12.5
6) Working well with other teachers and clinical instructors	4.37	0.0
7) Showing genuine interest in what students say	3.37	25.0
8) Working well with administrators	3.37	12.5
9) Interacting well with faculty from other disciplines	3.12	12.5
10) Assisting students to develop their own values, attitudes and beliefs	3.87	12.5
11) Being accessible to students out of class	3.50	12.5
12) Participating on interdepartmental committees	4.00	0.0

*Maximum Rating = 5.00. $G\overline{X}$ = 4.19.

A Comparison of Supervisors' Ratings of
Importance and Level of Preparation
in Interpersonal Relationships

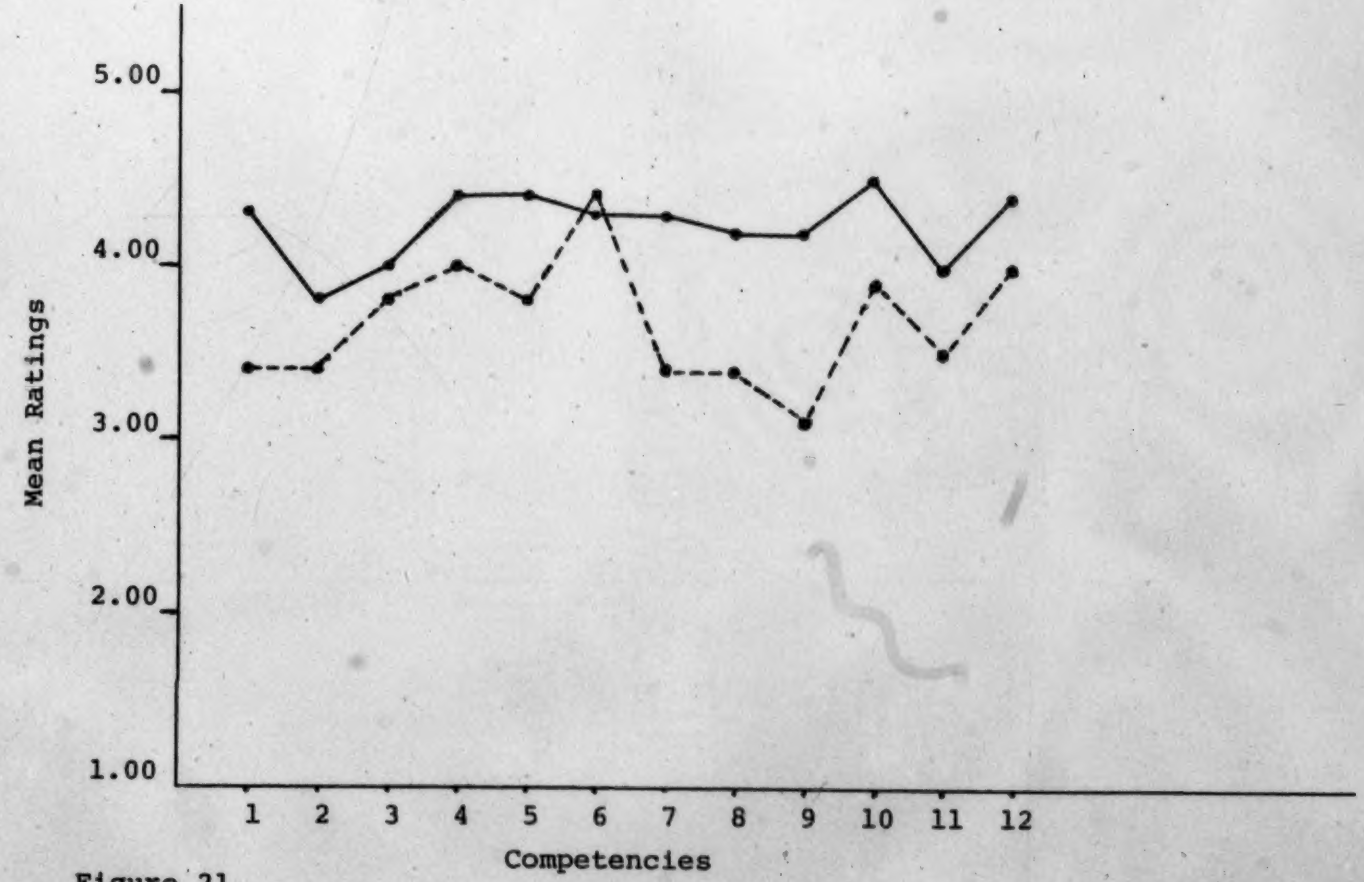

Figure 21.

Examination of modal responses evidences a general tendency among the supervisors to rate the level of preparation which the graduates received in the area of interpersonal relationships as being adequate.

Professional Awareness

The supervisors rated the level of preparation for the graduates in the area of professional awareness very positively. Only one competency out of the six comprising the area was rated below 4 (well)--item #6, maintaining contact with practitioners of one's profession ($\overline{X} = 3.75$). The item, however, was also rated lowest on the Importance Scale.

Table 40 shows the supervisors' mean ratings of the graduates' preparation and the percent of supervisors rating the preparation "Poor" or "Very Poor."

Discussion

The foregoing results indicate the supervisors' positive appraisal of the level of preparation of the graduates of the Teacher Education Program, in the 103 competencies encompassing lesson preparation, communication, lesson presentation, assessment, miscellaneous competencies, interpersonal relationships, and professional awareness. Three of these areas, namely communication, professional awareness, interpersonal relationships, and assessment were assessed most favourably by the supervisors.

Table 40

Supervisors' Ratings of Level of Preparation of Graduates in Professional Awareness and Percent Rating Preparation Poor or Very Poor

Skills, Attitudes, Knowledge	Mean Rating* of Level of Preparation	Percent Rating Preparation Poor or Very Poor
1) Displaying interest in professional association	4.00	12.5
2) Participating in the management of one's department/ faculty	4.37	0.0
3) Reading professional publications	4.42	0.0
4) Displaying concern for continuing professional education	4.25	0.0
5) Displaying commitment to teaching of the profession	4.25	0.0
6) Maintaining contact with practitioners of one's profession	3.75	12.5

*Maximum Rating = 5.00.

$G\overline{X}$ = 4.16.

A Comparison of Supervisors' Ratings of
Importance and Level of Preparation
In Professional Awareness

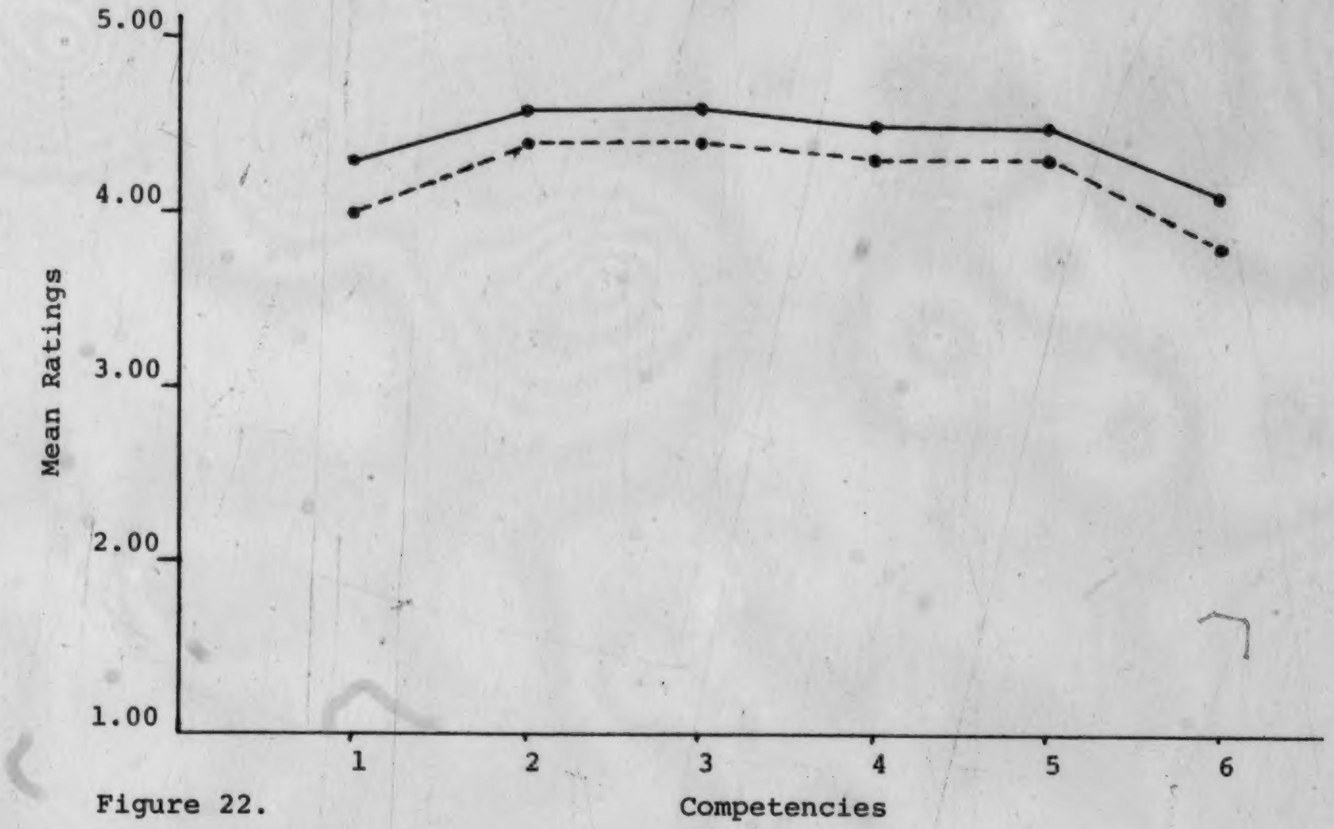

Figure 22.

In spite of the generalized positive appraisal, the supervisors did indicate unusually large discrepancies between the Importance Mean Rating and the Level of Preparation Index in three competencies belonging to the general area of lesson presentation. These competencies were: item #7, utilizing technological equipment to foster effective learning (Importance Mean Rating = 4.71 vis-a-vis 3.71 for Preparation); item #11, using valid approaches in teaching (Importance Mean Rating = 4.71 vis-a-vis 3.71 for Preparation); and item #21, generating enthusiasm (Importance Mean Rating = 4.71 vis-a-vis 3.85 for Preparation).

As revealed in Appendix F, these competencies were ranked number 2 in the Overall Importance Rating. Their low rating and the consequent large discrepancies between the two scales is suggestive, albeit in a subtle way, of a degree of ineffectiveness of the program in preparing the graduates in these vital skills. Nonetheless, the level of preparation of the graduates was generally perceived to be adequate by the supervisors (heads of departments/faculties). Table 41 shows the overall mean ratings for the seven areas.

Table 41

Supervisor Overall Ratings (Grand Means) of the Various Classifications

Classification	Overall Mean Rating*
Lesson Preparation	3.66
Communication	4.06
Lesson Presentation	3.85
Assessment	3.88
Miscellaneous	3.55
Interpersonal Relationships	4.19
Professional Awareness	4.16

*Maximum Rating = 5.00.

Subproblem 5

> To what extent does the teacher education preparation program approximate the model of an effective faculty development program?

The Faculty Development model envisaged here is the one proposed by Bergquist and Phillips (1975). These authors contend that a faculty development program, or an in-service program for a particular faculty as some would call it, must inevitably incorporate three components: (a) instructional development (process); (b) personal development (attitude); and (c) organizational development (structure).

In order to answer the question raised in Subproblem 5, the graduates were asked to respond to 27 items descriptive of Bergquist and Phillip's model. The results are shown in Tables 42, 43 and 44.

Discussion

A majority of the responding graduates tended to agree that, as a result of participating in the Teacher Education Program, they felt better about themselves and the way they performed in functions subsumed under the three components of an Effective Faculty Development Program. High percentages of disagreements, however, were noted in the following statements: (a) I earn a little more as a result of participating in this program (48.8% strongly disagreed or disagreed)--the mean for the statement was 2.41

Table 42

Graduates' Evaluation of Their Preparation
in Instructional Development Functions
and Percent Disagreeing or Strongly Disagreeing

Functions	Means	% Strongly Disagreeing or Disagreeing
1) The program has assisted me to understand theories of learning	4.39	0.0
2) I consider that enough time was devoted to curriculum theories	3.51	23.2
3) The program has assisted me to increase my knowledge of measurement and evaluation concepts	4.53	0.0
4) The time allocated for practice teaching was sufficient	3.55	30.2
5) The program has assisted me to clarify and define attitudes, values and assumptions regarding teaching/learning processes	4.23	2.3
6) The program has assisted me to define specific measurable objectives	4.55	0.0
7) As a result of participating in this program, I am capable of designing and developing alternative learning materials for my students	4.46	0.0
8) I feel a lot better as a teacher and a professional today	4.46	2.3
9) On the whole, I am more confident in my teaching ability	4.60	0.0

(. . . cont'd)

Table 42 (cont'd)

Functions	Means	% Strongly Disagreeing or Disagreeing
10) The program had a significant impact on my teaching style	4.46	0.0
11) The program has enabled me to become a better manager of the learning environment	4.23	4.6
12) I am better at diagnosing student learning problems today than I was before participating in the program	4.18	2.3

Table 43

Graduates' Evaluation of Their Preparation in Personal Development Functions and Percent Disagreeing or Strongly Disagreeing

Functions	Means	% Strongly Disagreeing or Disagreeing
1) I feel a lot better as a person today than I did before participating in this program	3.81	11.7
2) I discuss teaching with my colleagues and administrators more often than I did prior to this program	3.88	4.6
3) The program equipped me with therapeutic and supportive counselling techniques	3.34	25.6
4) I earn a little more as a result of participating in this program	2.41	48.8
5) The program has helped me to become an active participant in the management of student affairs	4.02	2.3
6) My relationship with my colleagues has improved considerably	3.95	0.0
7) I interact more effectively with students than I did before participating in this program	4.02	7.0
8) The program has assisted me to identify areas of personal strengths and areas which need to be improved	4.39	0.0

Table 44

Graduateś' Evaluation of Their Preparation in Organizational Development Functions and Percent Disagreeing or Strongly Disagreeing

Functions	Means	% Strongly Disagreeing or Disagreeing
1) I feel better equipped with conflict-management skills today than before participating in this program	4.02	4.7
2) My managerial development skills have been enhanced by this program	4.11	4.6
3) My problem-solving skills have been enhanced as a result of participating in this program	4.07	0.0
4) As a reuslt of participating in this program, my decision-making skills have been enhanced	4.07	2.3
5) The program has assisted me in clarifying organizational goals	4.25	0.0
6) The program has assisted me to develop policies relating to teaching and learning	4.04	2.3
7) As a result of participating in this program, I am capable of developing management policies that are responsive to individuals with varying work styles and temperaments	3.72	4.7

with a standard deviation of 1.31; and (b) the time allocated for practice teaching was sufficient (30.2% strongly disagreed or disagreed)--a mean of 3.55 with a standard deviation of 1.24 was noted.

The finding that almost half of the responding graduates disagreed with the suggestion that they were earning more as a result of their teacher preparation was somewhat surprising since upon successful completion, the graduates are normally awarded a one-year salary increment. In an attempt to explain this negation of a fact, one wonders whether the graduates are not merely expressing their general dissatisfaction with the salary structure. As will be remembered from Chapter V, the faculty of Medical Training Centre and associated colleges were considered to be poorly paid although their jobs are usually considered to be prestigious by the health services community.

The relatively high percentage of graduates disagreeing with the statement "The time allocated for practice teaching was sufficient" was not comforting either given that an equitable amount of time was spent in practice teaching. What is comforting, however, is that this finding is not atypical. All clients of teacher education worldwide have a tendency to value practice teaching most and to want to have more time allocated to the component.

Subproblem 6

> Were the perceptions of the graduates concerning their perceived level of preparation in the various skills, attitudes, and knowledge related to the following independent variables: (i) teaching experience; (ii) year diploma in education (health professions) was earned; and (iii) age?

In raising this question, the writer wished to determine whether the variables enunciated were contributory, in statistically significant ways, to the manner in which the graduates perceived the level of preparation they received in regard to the 103 competencies listed in Section II of their questionnaire. Two statistical procedures were employed in an attempt to detect statistically significant differences among the level of preparation mean ratings.

A One-Way Analysis of Variance (ANOVA) procedure was used for variables 'Teaching Experience' (collapsed into three groups from the original five) and 'Year Diploma was Earned' (four groups). The procedure uncovered one statistically significant mean rating at $\alpha = 0.05$ for the 'Teaching Experience' variable, and five for the "Year Diploma was Earned' variable (see Appendix G).

The Scheffé test procedure was applied to indicate precisely what groups perceived the level of preparation differently. For the variable 'Teaching Experience,' the test revealed a significant difference between graduates who had four to six years and those who had seven or more years of teaching experience in the way they perceived the level of preparation in item #6 (lesson preparation), "defining the objectives of particular lessons and units in terms of student behaviours." The "4-6 year" group rated their level of preparation higher than the "up to 3 years" cohort.

For the variable 'Year Diploma in Education was Earned,' significant differences were observed in the following items: item #9 (lesson preparation), "Judging the appropriateness of instructional materials"; item #7 (lesson presentation), "utilizing technological equipment to foster effective learning"; item #10 (lesson presentation), "Effectively reinforcing certain kinds of student behaviour"; item #4 (assessment), "Evaluating clinical performance." The Scheffé test revealed significant differences among 1982 and 1983 graduates in item #9 (lesson preparation), item #7 (lesson presentation), and item #9 (assessment); and 1981, 1982, 1983 graduates for item #10 (lesson presentation) and item #4 (assessment).

The t-test procedure applied to the independent variable 'age' (two groups only) revealed significant differences in 36 competencies. Tables 45, 46 and 47 show t-test results for overall mean ratings for the three categories rated significantly higher by the graduates who were under 30 years old than those who were over 30 years of age.

Table 45

Comparison of Graduates' Mean Rating of Their Level of Preparation in Lesson Preparation
- Grouped by Age -

Graduates' Classification	Number of Respondents	Mean Ratings	Standard Deviation	DF	t Value	2-Tail Probability
Over 30 years	35	3.92	0.57	41	-3.79	0.021
Under 30 years	8	4.42	0.26			

t .05 Df, = ± 2.02.

Table 46

Comparison of Graduates' Mean Rating of Their Level of Preparation in Interpersonal Relationships

Graduates' Classification	Number of Respondents	Mean Ratings	Standard Deviation	DF	t Value	2-Tail Probability
Over 30 years	35	3.79	0.01	41	-2.95	0.007
Under 30 years	8	4.46	0.42			

t .05 Df, 41 = ± 2.02.

Table 47

Comparison of Graduates' Mean Rating of Their Level of Preparation in Professional Awareness

Graduates' Classification	Number of Respondents	Mean Ratings	Standard Deviation	DF	t Value	2-Tail Probability
Over 30 years	35	3.93	1.15	41	-3.20	0.03
Under 30 years	8	4.70	0.40			

t .05 DF 41 = ± 2.02

Discussion

The graduates of the Allied Health Teacher Education Program seemed to perceive their level of preparation in the various skills, attitudes and knowledge in the same way in spite of their varied teaching experiences, varied learning experiences, and, of course, varied experiences after graduation. It can, therefore, be stated with confidence that the perceived degree of the program's effectiveness in fostering the competencies is descriptive of all the graduates' opinions irrespective of their teaching experience or year of graduation.

The same cannot be said of the graduates when grouped by age, however. As shown in Tables 45, 46 and 47, the younger graduates (under 30 years) portrayed a tendency to rate the level of preparation higher than their older counterparts (over 30 years). No explanation for this tendency is readily emergent from the data.

Subproblem 7

> Did the faculty of the Allied Health Institutions perceive the teacher education program as being generally accessible?

Data required to resolve Subproblem 7 were obtained from the non-participants' and supervisors' responses to item #5 and #9 of their respective questionnaires. A tabulation of the responses, shown in Tables 48 and 49, indicate a positive feeling toward accessibility. Of the 20 non-participants responding, nine checked the "no opinion" category. The rest perceived the program as being easily accessible. The supervisors were unevenly divided on their views of the program's accessibility: 75 percent perceived the program as being easily accessible while the remainder (25%) viewed it as being "not easily accessible."

Table 48

Non-Participants' Perceptions of Program Accessibility

Category	Frequency	Percent
Easily Accessible	11	55
No Opinion	9	45

Table 49

Supervisors' Perceptions of Program Accessibility

Category	Frequency	Percent
Easily Accessible	6	75
Not Easily Accessible	2	25

Discussion

The way that clients and potential clients view accessibility to a program is said to be a good measure of the clients' satisfaction (Kahn, Kate & Gutek, 1976).

Program accessibility is thus a good measure of program effectiveness. It can be employed to determine a client's chances of being admitted in the program. Needless to say, easily accessible programs have a higher propensity of admitting all those in need of services than programs that are not easily accessible. The latter programs have been described as "elitist."

The findings shown in Tables 48 and 49 are suggestive of a fairly accessible program. Both the untrained faculty and the heads of departments/faculties agree that the Allied Health Teacher Education Program is available to all those who need its services. The findings notwithstanding, one untrained teacher expressed his/her fear of the changing trend. He/she observed that "the Teaching Training Program which was initially very accessible is becoming highly competitive."

Subproblem 8

> What skills, attitudes, and knowledge did the Allied Health Faculty consider important to the teaching of Allied Health Professionals?

Aggregate mean ratings of perceived importance of the various skills, attitudes and knowledge by the stakeholders (graduates, supervisors, and the untrained teachers) of the program were computed. The resultant means were used to determine the skills, attitudes, and knowledge considered important to the teaching of allied health personnel.

As was noted elsewhere in the chapter, the mean ratings for the perceived degree of importance were generally high. Indeed, no skill, attitude or knowledge statement had received a mean rating of 1 or 2 (low). The lowest aggregate mean rating, for instance, was 3.76.

In order to answer the question posed in Subproblem 7, a mean rating of 4 was adopted as the criterion for assigning the skills, attitudes, and knowledge to the high end of the "low-high continuum." All skills, attitudes, and knowledge receiving mean ratings of 4 or above were hence considered important to the teaching of paramedical disciplines. Only four skills failed to meet this criterion. See Appendix E for a list of important skills, attitudes, and knowledge considered important to the teaching of allied health professions.

Discussion

The four skills considered least important (mean less than 4) were: item #4 (lesson preparation), "applying accepted principles of adult learning in the design of instructional strategies"; item #16 (lesson preparation), "involving students in the process of defining objectives"; item #9 (miscellaneous), "using critical incident techniques to derive course objectives"; and item #11 (miscellaneous), "utilizing statistical procedures in classroom record keeping."

As can be deduced, these skills are definitely not critical to the task of classroom teaching. They are not, to put it bluntly, survival skills of the Kenyan allied health teacher. Some are, nonetheless, complementary to the tasks of planning and organization of instruction as well as that of the general classroom milieu, e.g., application of principles of adult education, use of critical incident techniques, and utilization of statistical procedures in record keeping.

The low rating accorded the statement implying a democratic approach to derivation and definition of objectives is to be expected in the context in which this study was conducted. In the context, teachers and only teachers, guided by a general curriculum, determine "what is to be taught" and "how it is to be taught." The students' role consequently is that of passive and non-critical consumers of teaching. Their (students') involvement would seem to the teachers like abdication of their (teachers') power, and they are, therefore, not ready nor willing to involve the students. Unfortunately, this is characteristic of the whole education system, not just the medical and allied health education subsystem.

Subproblem 9

> To what extent were the graduates satisfied with the general organization and management of the program?

Data required for the resolution of this subproblem were obtained through the graduates' responses to Section III(iv)--Program Organization/Management--of their questionnaire.

Examination of the data shown in Table 50 reveals a high level of agreement for statement #1, "The goals of the program were of immediate benefits to my teaching," a relatively mediocre level of agreement for statements #2, 3, 4 and 5, and a low level of agreement for statements #6, "I consider the way the program is run appropriate," and #7, "I consider the facilities provided for study sufficient."

Discussion

Generally, the majority of graduates agreed that the organization and management of the program was satisfactory. They expressed contention in program goals, the general atmosphere of the program, flexibility and adpatability characteristics of the program, and the day-to-day management of the program. They, however, expressed discontent with the facilities (67.5%) provided for study. This discontent is constantly expressed in the section where the graduates were asked to list the factors which least impressed them about the program (see Table 51).

Table 50

Graduates' Satisfaction with the General Organization/Management of the Program and Percent Disagreeing or Strongly Disagreeing

Statement	Mean	% Strongly Disagreeing or Disagreeing
The goals of the program were of immediate benefit to my teaching	4.23	0.0
The general atmosphere of the program was conducive to serious work	3.59	18.7
During the course of the program, I was given the opportunity to work at my own pace	3.55	25.6
The manner in which the program was conducted was in line with the educational principles it discussed	3.74	7.0
The attitude of the various instructors was conducive to "free learning"	3.58	20.9
I consider the way the program is run appropriate	3.07	32.6
I consider the facilities provided for study sufficient	2.00	67.5

Factors Which Impressed the Graduates Favourably and Unfavourably

Tables 51 and 52 provide the graduates' response to the open-ended questions which sought information on:

1. The factors which impressed you (the graduate) most favourably and would like to have them maintained; and
2. The factors which impressed you (the graduates) most unfavourably and would like to have them discontinued or revised.

As is shown in the tables, the factors revealed tend to complement, if not confirm, the major findings of the study. This, needless to say, is suggestive of a rather reliable instrument.

Table 51

Factors Which Impressed the Graduates Most and Would Like to Have Them Maintained

Factor	Frequency of Mention
Research Project	19
Teaching Practice	14
Teaching Methods	13
Cordial Relationship with Facilitators	12
Course in Management & Administration	10
Course in Curriculum Development	9
Flexibility of the Program	8
Course in Research Methods	7
Use of Kenyatta University Library	6
Course in Instructional Media (AV)	4
Course in Educational Psychology	4
Interaction Amongst Students	3
Guest Lecturers	2
Course in Sociology	1

Table 52

Factors Which Impressed the Graduates Most Unfavourably and Would Like to Have Them Discontinued or Revised

Factor	Frequency of Mention
Inadequate Physical Facilities (lecture rooms, study areas)	9
Inadequate resources:	
a) transportation	11
b) lecturers	7
c) instructional materials and equipment	3
Short time alloted teaching practice	7
Lack of recognition of program	6
Evaluation of students	4
Supervision of students for research projects	3
Poor teaching in:	
a) statistics and research	3
b) curriculum development	3
c) sociology	2
d) educational psychology	1

Summary

Data gathered through the three instruments used in this study were analyzed in the chapter. The findings which were presented mainly in tabular form were discussed with reference to the nine subproblems posed in Chapter I.

Following the analysis of data pertaining to a particular subproblem, a brief discussion of the findings was presented. Interpretations and explications were provided wherever necessary, otherwise, the statistics have been left, for the most part, to speak for themselves.

The factors that impressed the graduates most favourably and most unfavourably were also analyzed and reported in frequency distribution tables. They were generally supportive of the findings emanating from the responses to the specific questions. In addition, the factors were indicative of the various perceived strengths and weaknesses that pertain to the program.

As revealed by the findings, the population of this study perceived the program as being moderately successful in preparing teachers of allied health. Table 53 shows data that support this claim.

The data represent responses from the three cohorts of this study to Section IV (Graduates' Questionnaire), Section III (Supervisors' Questionnaire), and Section III (Non-participants' Questionnaire). The respondents were asked to rate the overall success of the program, in their respective section. The mean ratings suggest a moderately successful program.

In comparing the means for the graduates, supervisors, and the untrained faculty, it was found that the graduates rated the success lowest ($\overline{X} = 3.11$), followed by the supervisors ($\overline{X} = 3.28$). The untrained faculty rated the overall success highest ($\overline{X} = 3.66$) in a four-point scale.

It would seem from the foregoing that those respondents who were close to the program rated its overall success lower than their counterparts who were still waiting for a chance to be recruited. The finding of statistically significant difference between the graduates' mean rating and that of untrained faculty, as revealed by the Scheffé test, attests to this observation (see Table 53).

Table 53

Comparison of the Mean Rating of Overall Success of the Teacher Education Program by Graduates, Supervisors, and Untrained Faculty

Respondents	N	Mean Rating	Standard Deviation	Value	Probability
Supervisors	7	3.28	0.48	4.47*	0.01
Untrained Faculty (non-participants)	9	3.66	0.50		
Graduates	42	3.11	0.50		

CHAPTER VII

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This final chapter consists of four sections: (a) Overview of the Study; (b) Conclusions: (c) Implications; and (d) Recommendations.

Overview of the Study

The Problem

Decisions that affect the existence and continued support of innovations in poor nations and indeed in rich ones must be predicated on sound evidence rather than their assumed good or other ambiguous and subjective motives. Their effectiveness in delivering the "promised goods" must be put under constant surveillance. This, as is revealed in the literature, is not usually the case.

The Purpose of the Study

The purpose of the study was to gauge the effectiveness of the Teacher Education Program for the teachers of Allied Health professions in the context of the Republic of Kenya. Nine subproblems (research questions) were posed to help the investigator capture the elusive notion of effectiveness from various aspects.

Conceptual Framework

The Multi-goal, Theory-driven approach was adopted as the conceptual framework for this study. It entailed focusing on teacher education programs as social systems with institutions and role expectations and individuals with varied need dispositions. The skills, attitudes, and knowledge desired of an effective teacher were viewed as being derived from the ever-changing roles of teachers and their needs as human beings.

Literature Review

Four issues were dealt with in this section: (a) the notion of teacher education as it applies to the general system of education; (b) teacher education for the teachers of allied health professions; (c) effective teaching; and (d) related studies.

It was noted from the review that:

1. Teacher education programs for the allied health were rarely evaluated;
2. The graduates of the general teacher education programs had a tendency to view their university or teacher college course work as irrelevant to their teaching roles;
3. The length of teacher education programs range from three to five years;
4. The characteristics of an effective teacher are universal; and

5. The "right mix" of general education, special education, and professional education components of teacher education continues to elude teacher education planners.

Population

The sources of data for this study included the three stakeholders of the program, i.e., the graduates of the program, their supervisors, and the untrained faculty of allied health institutions.

Instrumentation

Three instruments were designed specifically for this study. They were: graduates' questionnaire, supervisors' questionnaire, and non-participants' questionnaire.

The graduates' questionnaire was the main instrument for the study. Information concerning graduates' perceptions on the importance of the various competencies and the level of preparation received, and the program's effectiveness or lack thereof was solicited.

Methodology

Permission to conduct the study at Medical Training Centre and satellites was sought through telephone conversations and correspondence. The questionnaires were hand-delivered to the Director of the program who had agreed to administer them to the study population.

Altogether, 43 graduate questionnaires (79.6%), eight supervisor questionnaires (80%), and 20 nonparticipants' questionnaires (50%) were returned.

Data Analysis

The numerical data from the questionnaires were keypunched on IBM computer cards and analyzed using programs from the Statistical Package for the Social Sciences. The statistical procedures employed included frequency and percentage of responses, mean ratings, t-test and Analysis of Variance. Where the F test values were significant at the .05 level, Sheffé multiple comparison of means was used to identify the groups which were significantly different.

Responses to open-ended questions for the graduates' and supervisors' questionnaires were analyzed to detect any possible patterns of response. These data were used to further illuminate the perceptions expressed in numerical scales.

Conclusions

The nature of this study necessitated a cautious approach in drawing the following conclusions from the major findings:

1. The high rating that the graduates and supervisors awarded the level of preparation received by the graduates leads to the conclusion that the program was generally adequate in fostering skills, attitudes, and knowledge deemed necessary for effective teaching in

the health sciences.

2. The responses to the section of the graduate questionnaire seeking appraisal of the various components of the teacher education program supported the conclusion that the graduates did not view favourably the existing arrangement of taking courses outside the zone of the Medical Training Centre.
3. The finding that the skills, attitudes, and knowledge used in this study were all perceived (save four) by the faculty of allied health institutions to be highly important leads to the conclusion that characteristics of an effective teacher are indeed universal. It reaffirms the universality of the role of the teacher.
4. The finding concerning accessibility to the program led to the conclusion that the potential clients of the program stand good chances of being admitted to the program.
5. The finding that the program closely approximated an effective faculty development model suggests that the program does not only focus on the instructional development of the individual teachers but also their personal development and organizational development.
6. The graduates of the allied health teacher education program were highly satisfied with the program.

The findings have led the investigator to conclude that the Allied Health Teacher Education Program is moderately effective.

Implications

Teacher preparation programs must have systematic assessment for continued improvement. An effective research and evaluation procedure will provide multiple opportunities to acquire feedback from the various stakeholders of a program. The findings in the present study have the following implications.

First, the finding that there is indeed a repertoire of competencies necessary for effective teaching within health sciences disciplines has the implication that the content of the professional component of the program should be empirically based (see Figure 9).

Second, the finding that the teacher education program for the teachers of allied health in Kenya was perceived by the stakeholders as being moderately effective should "throw a few cats among the pigeons." Program administrators, both immediate (program director and his staff) and distant (Ministry of Health manpower planners and administrators) should critically examine the results of this study and identify the aspects that were poorly rated (areas of weaknesses) by the stakeholders and, where feasible, act upon improving them wholly or piecemeal.

The third implication is also predicated on the finding that the evaluand was perceived as being only moderately effective. This finding suggests that the teacher preparation program must be seen as comprising a pre-service period and an in-service period or, in other words, an ongoing process.

Fourth, given the wealth of knowledge, skills, and attitudes required of an effective teacher, a duration of one year seems hardly enough for effectively preparing the faculty of allied health. The preparatory period should, therefore, be extended as seen appropriate to allow ample time for liberal, special, and professional education (particularly teaching practice).

Fifth, although the graduates did indicate a moderately high level of preparation in the various skills, attitudes, and knowledge (competencies), a further evaluation procedure should be used to determine the graduates' ability to demonstrate the specific teaching competencies. A process-product type of evaluative study would be ideal.

Sixth, the finding that the graduates of the program were discontented with the present arrangement of commuting to other institutions (Kenyatta University College or the Kenya Institute of Administration) for lectures implies a need for reorganization of the program. For the reorganization to be effective, the government (Ministry of Health or the Directorate of Personnel Management) must allot more funds for the program to facilitate hiring of qualified teaching staff, and acquisition of such learning facilities as classrooms, laboratories, a well-equipped resource centre, and other amenities necessary for effective learning and teaching. An investment that improves the quality of the teacher education program, needless to say, is certainly worth every shilling.

Seventh, this study depended wholly on data collected through questionnaires. While these instruments and indeed the whole evaluative procedure did prove to be useful, the notion of "Triangulation" should be tried in future studies seeking to determine whether the teacher education program for the allied health faculty is effective.

Recommendations

The evaluation of the allied health teacher education program was the focus of this study. The findings were suggestive of a tacit desire to explore alternative ways of accomplishing some of the program objectives. The following recommendations are based on this tacit desire:

1. It is recommended that the "evaluative process" be included as an integral part of the teacher education program.

   Longitudinal evaluative studies of each graduating class should be initiated to determine the validity of the teacher education program, to assess the competencies of the graduates, and to provide data for making inferential and judgemental statements about the program.
2. It is recommended that the teacher education program be adopted as a vital component of manpower development in the Ministry of Health.

The premium placed on this program by the allied health faculty (graduates, supervisors, and the untrained teachers) was tremendous. All study participants unanimously supported the idea of making the program an integral part of health care training.

3. It is recommended that this program be accorded the recognition it so deserves.

    This recommendation is based on the finding that the graduates of the program were awarded Medical Training Centre diplomas which were not recognized by other institutions of higher learning. Since most of the coursework was done at Kenyatta University College, it would only be proper that these diplomas be awarded by the University of Nairobi. This would make it possible for the graduates to upgrade their qualifications to degree level.

4. It is further recommended that the Teacher Education Program be based at Kenyatta University College. The clients should work toward a Bachelor of Education degree instead of the diploma in Education (Health Professions).

5. It is recommended that the terms and conditions of service for the allied health faculty be clearly defined and upgraded.

    The finding that nearly half of the responding faculty were in Job Group G was very disheartening. This kind of career structure will definitely not attract nor retain qualified and experienced staff in institutions training allied health personnel in the Republic of Kenya.

6. It is recommended that the government (Ministry of Health and/or Directorate of Personnel Management) invest more money in this program. First, for manpower development--training of educational specialists who are qualified in health-related disciplines to man the program (recommended levels of qualifications; Master's and Ph.D. degrees in education). Second, for development of facilities--classrooms, laboratories, libraries, etc. It was indeed pathetic to note that the program depended wholly on borrowed classrooms for lectures.
7. It is recommended that admission to and retention in the teacher education program be based on academic performance and student and supervisor evaluations of potential candidates.
8. It is recommended that criteria be developed based upon the knowledge, skill, and attitude statement ratings of this study to determine individual teacher competencies (and lack thereof). These criteria could, in conjunction with identified needs, form the basis for training programs, both preservice and inservice. The criteria may also be used for designing evaluation forms for the faculty of allied health in Kenya.
9. An in-depth study of the utility of the "Role-Theory" conceptualization of the teacher function could be

considered as a possibility for future study. An attempt should be made to classify the various skills, attitudes, and knowledge into idiographic, nomothetic, and transactional dimensions as demonstrated by Horowitz in his 1969 study.

10. In the light of the finding that the evaluand was effective, although in a mediocre way, it is recommended that administrators wishing to determine effectiveness of programs use the multi-goal theory approach. This approach may truly have the potential to detect program effectiveness.

11. The large discrepancies between importance ratings and the level of preparation rating are indicative of a lapse in the program's effectiveness in fostering some skills, attitudes, and knowledge (competencies). In view of this finding, it is recommended that more time be expended in preparing the teachers-to-be in these critical competencies of allied health teachers.

12. Given that the clients of the program are initially recruited from the field and no formal preparation is available beyond the basic qualification in their respective disciplines, it is recommended that the teachers-to-be be introduced to an indepth study of the subjects they will be required to teach upon completion of the teacher education program. Besides knowing "how" to teach, the faculty of allied health should also know "what" to teach.

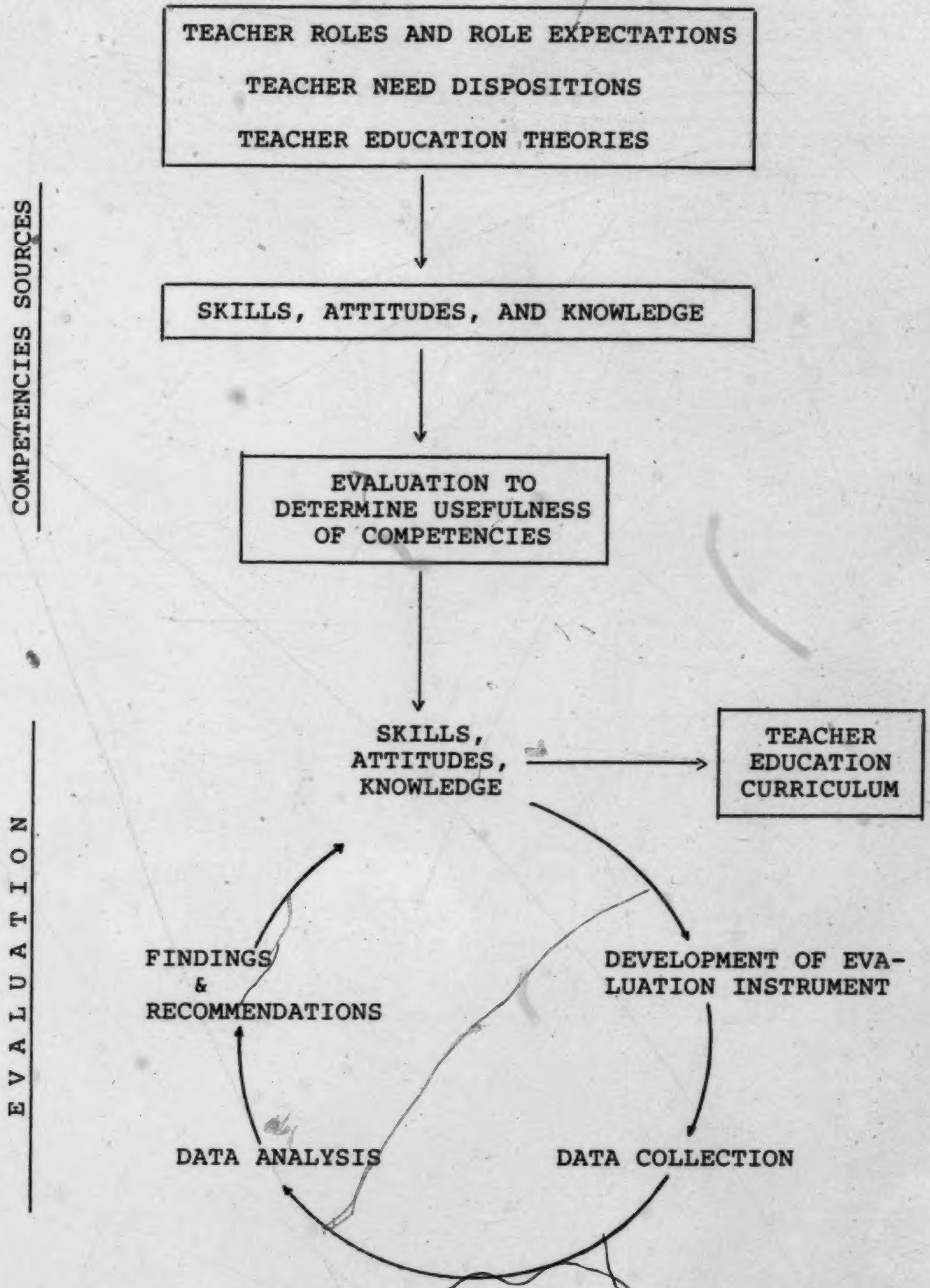
TEACHER ROLES AND ROLE EXPECTATIONS
TEACHER NEED DISPOSITIONS
TEACHER EDUCATION THEORIES
COMPETENCIES SOURCES
SKILLS, ATTITUDES, AND KNOWLEDGE
EVALUATION TO DETERMINE USEFULNESS OF COMPETENCIES
SKILLS, ATTITUDES, KNOWLEDGE
TEACHER EDUCATION CURRICULUM
EVALUATION
DEVELOPMENT OF EVALUATION INSTRUMENT
DATA COLLECTION
DATA ANALYSIS
FINDINGS & RECOMMENDATIONS

Figure 23. A Diagrammatical Representation of the Research-Based Teacher Education Curriculum.

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APPENDICES

APPENDIX A

QUESTIONNAIRES

GRADUATES' QUESTIONNAIRE

SECTION I

Demographic and Personal Data Sheet

Instructions: Please provide the following information about yourself. The information you provide will only be used in a summary form to help the researcher determine the extent to which some of these items may influence the graduates' perception of the program under study. Please check [✓] or fill in the appropriate space.

Please do not write in this space

____ 1

1 - 4

1. Your Faculty/Department: ____________ 5,6

2. Age: (1) 20-29 yrs. ____ (2) 30-39 yrs. ____ 7
(3) 40-49 yrs. ____ (4) 50 yrs. or over ____

3. Sex: (1) Male ____ (2) Female ____ 8

4. Teaching Experience:
(1) less than 1 yr. ____ (2) 1 - 3 yrs. ____ 9
(3) 4 - 6 yrs. ____ (4) 7 - 9 yrs. ____
(5) 10 yrs. or over ____

5. Job Group:
Group G ____ Group H ____
Group J ____ Group K ____ 10
Group L or over ____

6. Highest Professional Qualification:
(1) Diploma ____ (2) Bachelor's degree ____ 11
(3) Master's degree ____
(4) Other (specify) ____________

7. Year Diploma in Education (Health Professions) awarded:
(1) 1979 ____ (3) 1980 ____ 12
(3) 1981 ____ (4) 1982 ____

SECTION II

Guide to Section II:

In this section is listed a number of general teaching skills, attitudes, and knowledge (competencies). Each respondent is asked to rate each skill, attitude, or knowledge TWICE:

1. Once under the heading DEGREE OF IMPORTANCE; and
2. Once under the heading LEVEL OF PREPARATION.

A five-point scale from 1 (low) to 5 (high) is provided under each heading. A sixth column (NA) has also been provided on the second rating scale (LEVEL OF PREPARATION). This column (NA) is only to be used by the respondents who feel that they have no opinion as to the Adequacy of Preparation in the skill, attitude, and knowledge in question.

Instructions:

Please reflect on your teacher preparation program (medical education) and indicate by circling the number which corresponds to your assessment of:

1. The Degree of Importance of each of the listed skills and attitudes; and
2. The Level of Preparation for each of the skills, attitudes, and knowledge.

Example: "Allied Health Personnel Preparation Program"
(A hypothetical program)

Skills, attitudes, knowledge statements	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
1. Administration of the right doses of prescribed treatment	1 2 3 4 [✓ 5]	1 2 3 4 [✓ 5] NA	
2. Empathizing with patients/clients	1 2 3 [✓ 4] 5	1 2 3 4 5 [✓ NA]	
3. Understanding the economics of health care in Kenya	1 2 3 [✓ 4] 5	[✓ 1] 2 3 4 5 NA	

4. Ability to operate high frequency radio transmitters	[✓ 1] 2 3 4 5	[✓ 1] 2 3 4 5 NA	

Interpretation of the Above Ratings:

Statement 1: The respondent considers this skill very important. He/she also feels that he/she was adequately prepared in performing the skill.

Statement 2: Although the respondent considers empathizing with patients/clients important, the respondent is not able to judge the level of adequacy. He/she prefers to have no opinion (NA).

Statement 3: The respondent considers this piece of knowledge important to the practice of "Allied Health." He/she, however, thinks that the piece of knowledge is not given an adequate treatment in the training process.

Statement 4: This skill is of low importance to the respondent. He/she indicates that the skill is inadequately treated in the training process.

PLEASE PROCEED

Statement of Skills, Attitudes and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN LESSON PREPARATION			
1) Judging the appropriateness of instruction materials	1 2 3 4 5	1 2 3 4 5 NA	13,14
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training	1 2 3 4 5	1 2 3 4 5 NA	15,16
3) Selecting appropriate methods of teaching	1 2 3 4 5	1 2 3 4 5 NA	17,18
4) Organizing course content in a fashion that is understandable to students	1 2 3 4 5	1 2 3 4 5 NA	19,20
5) Stating instructional objectives in behavioral terms	1 2 3 4 5	1 2 3 4 5 NA	21,22
6) Defining the objectives of particular lessons and units in terms of student behaviors	1 2 3 4 5	1 2 3 4 5 NA	23,24
7) Planning instructional activities	1 2 3 4 5	1 2 3 4 5 NA	25,26
8) Selecting appropriate subject content	1 2 3 4 5	1 2 3 4 5 NA	27,28
9) Preparing lesson plans	1 2 3 4 5	1 2 3 4 5 NA	29,30
10) Selecting appropriate content from a large body of expanding knowledge	1 2 3 4 5	1 2 3 4 5 NA	31,32
11) Selecting appropriate teaching materials	1 2 3 4 5	1 2 3 4 5 NA	33.34

Statement of Skills, Attitudes and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN LESSON PREPARATION (cont'd)			
12) Seeking and using the assistance of educational specialists for planning when appropriate	1 2 3 4 5	1 2 3 4 5 NA	35,36
13) Preparing appropriate teaching aids	1 2 3 4 5	1 2 3 4 5 NA	37,38
14) Applying accepted principles of adult learning in the design of instructional strategies	1 2 3 4 5	1 2 3 4 5 NA	39,40
15) Determining learner characteristics	1 2 3 4 5	1 2 3 4 5 NA	41,42
16) Involving students in the process of defining objectives	1 2 3 4 5	1 2 3 4 5 NA	43,44
IN COMMUNICATION			
1) Orally communicating information on a given topic in a coherent logical manner	1 2 3 4 5	1 2 3 4 5 NA	45,46
2) Writing in a logical, easily understood style with appropriate grammar and sentence structure	1 2 3 4 5	1 2 3 4 5 NA	47,48
3) Comprehending and correctly interpreting a message after listening	1 2 3 4 5	1 2 3 4 5 NA	49,50
4) Ability to read, comprehend, interpret professional material	1 2 3 4 5	1 2 3 4 5 NA	51,52

Statement of Skills, Attitudes and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN LESSON PRESENTATION			
1) Using effective questioning techniques	1 2 3 4 5	1 2 3 4 5 NA	53,54
2) Using wit and humour effectively	1 2 3 4 5	1 2 3 4 5 NA	55,56
3) Encouraging class discussion	1 2 3 4 5	1 2 3 4 5 NA	57,58
4) Sequencing instructional activities	1 2 3 4 5	1 2 3 4 5 NA	59,60
5) Maintaining an environment conducive to learning	1 2 3 4 5	1 2 3 4 5 NA	61,62
6) Adapting to unexpected teaching situations	1 2 3 4 5	1 2 3 4 5 NA	63,64
7) Utilizing technological equipment to foster effective learning	1 2 3 4 5	1 2 3 4 5 NA	65,66
8) Relating to students' experience	1 2 3 4 5	1 2 3 4 5 NA	67,68
9) Continually varying the learning situation in order to keep the students involved	1 2 3 4 5	1 2 3 4 5 NA	69,70
10) Effectively reinforcing certain kinds of student behaviour	1 2 3 4 5	1 2 3 4 5 NA	71,72
11) Using valid approaches in teaching	1 2 3 4 5	1 2 3 4 5 NA	73,74
12) Making difficult topics easy to understand	1 2 3 4 5	1 2 3 4 5 NA	75,76
13) Explaining things thoroughly	1 2 3 4 5	1 2 3 4 5 NA	77,78
14) Presenting reinforcement promptly	1 2 3 4 5	1 2 3 4 5 NA	79,80
			1 - = - 2 4
15) Maintaining the pace of a lesson	1 2 3 4 5	1 2 3 4 5 NA	5,6

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN LESSON PRESENTATION (cont'd)			
16) Displaying thorough knowledge of subject matter	1 2 3 4 5	1 2 3 4 5 NA	7,8
17) Summarizing major points	1 2 3 4 5	1 2 3 4 5 NA	9,10
18) Individualizing instruction	1 2 3 4 5	1 2 3 4 5 NA	11,12
19) Presenting evidence in controversial issues	1 2 3 4 5	1 2 3 4 5 NA	13,14
20) Referring students to additional resource persons and materials	1 2 3 4 5	1 2 3 4 5 NA	15,16
21) Generating enthusiasm	1 2 3 4 5	1 2 3 4 5 NA	17,18
22) Providing varied learning experiences for achieving objectives	1 2 3 4 5	1 2 3 4 5 NA	19,20
IN INTERPERSONAL RELATIONSHIPS			
1) Showing warmth and sympathy to students	1 2 3 4 5	1 2 3 4 5 NA	21,22
2) Developing positive relationships with students	1 2 3 4 5	1 2 3 4 5 NA	23,24
3) Conveying confidence in and respect for student	1 2 3 4 5	1 2 3 4 5 NA	25,26
4) Being sensitive to students' needs and feelings	1 2 3 4 5	1 2 3 4 5 NA	27,28
5) Motivating students	1 2 3 4 5	1 2 3 4 5 NA	29,30
6) Working well with other teachers and clinical instructors	1 2 3 4 5	1 2 3 4 5 NA	31,32
7) Showing genuine interest in what students say	1 2 3 4 5	1 2 3 4 5 NA	33,34
8) Working well with administrators	1 2 3 4 5	1 2 3 4 5 NA	35,36

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN INTERPERSONAL RELATIONSHIPS (cont'd)			
9) Interacting well with faculty from other disciplines	1 2 3 4 5	1 2 3 4 5 NA	37,38
10) Assisting students to develop their own values, attitudes and beliefs	1 2 3 4 5	1 2 3 4 5 NA	39,40
11) Being accessible to students out of class	1 2 3 4 5	1 2 3 4 5 NA	41,42
12) Participating on interdepartmental committees	1 2 3 4 5	1 2 3 4 5 NA	43,44
IN ASSESSMENT			
1) Evaluating student achievement	1 2 3 4 5	1 2 3 4 5 NA	45,46
2) Diagnosing students' learning needs	1 2 3 4 5	1 2 3 4 5 NA	47,48
3) Monitoring students' progress	1 2 3 4 5	1 2 3 4 5 NA	49,50
4) Evaluating one's (teacher's) progress	1 2 3 4 5	1 2 3 4 5 NA	51,52
5) Constructing examinations	1 2 3 4 5	1 2 3 4 5 NA	53,54
6) Understanding evaluation theories	1 2 3 4 5	1 2 3 4 5 NA	55,56
7) Grading examinations	1 2 3 4 5	1 2 3 4 5 NA	57,58
8) Analyzing test items for the sake of accumulating valid and reliable question tools	1 2 3 4 5	1 2 3 4 5 NA	59,60
9) Evaluating clinical performance	1 2 3 4 5	1 2 3 4 5 NA	61,62
10) Providing prompt feedback on examinations and assignments	1 2 3 4 5	1 2 3 4 5 NA	63,64

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN ASSESSMENT (cont'd)			
11) Identifying need for diagnostic testing	1 2 3 4 5	1 2 3 4 5 NA	65,66
12) Giving tests that are pertinent to course objectives	1 2 3 4 5	1 2 3 4 5 NA	67,68
13) Being fair in evaluations	1 2 3 4 5	1 2 3 4 5 NA	69,70
14) Telling students when they have done well	1 2 3 4 5	1 2 3 4 5 NA	71,72
15) Reviewing tests with students	1 2 3 4 5	1 2 3 4 5 NA	73,74
16) Being concerned with learning rather than testing	1 2 3 4 5	1 2 3 4 5 NA	75,76
17) Correcting students promptly	1 2 3 4 5	1 2 3 4 5 NA	77,78
18) Recognizing special achievement	1 2 3 4 5	1 2 3 4 5 NA	79,80
19) Interpreting diagnostic test results	1 2 3 4 5	1 2 3 4 5 NA	- - - - 3 1 - 4 5,6
IN MISCELLANEOUS CATEGORY			
1) Understanding and applying curriculum theories	1 2 3 4 5	1 2 3 4 5 NA	7,8
2) Conducting research	1 2 3 4 5	1 2 3 4 5 NA	9,10
3) Developing curricula for one's discipline	1 2 3 4 5	1 2 3 4 5 NA	11,12
4) Understanding and applying various teaching methods	1 2 3 4 5	1 2 3 4 5 NA	13,14
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	1 2 3 4 5	1 2 3 4 5 NA	15,16
6) Appreciating educational psychology	1 2 3 4 5	1 2 3 4 5 NA	17,18

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN MISCELLANEOUS CATEGORY (cont'd)			
7) Understanding statistical concepts	1 2 3 4 5	1 2 3 4 5 NA	19,20
8) Utilizing various research methods	1 2 3 4 5	1 2 3 4 5 NA	21,22
9) Using critical incident technique to derive course objectives	1 2 3 4 5	1 2 3 4 5 NA	23,24
10) Using group dynamic skills	1 2 3 4 5	1 2 3 4 5 NA	25,26
11) Utilizing statistical procedures in classroom record keeping	1 2 3 4 5	1 2 3 4 5 NA	27,28
12) Appreciating student counselling	1 2 3 4 5	1 2 3 4 5 NA	29,30
13) Utilizing management theories to foster classroom discipline	1 2 3 4 5	1 2 3 4 5 NA	31,32
14) Understanding sociology of education	1 2 3 4 5	1 2 3 4 5 NA	33,34
15) Developing teaching manuals	1 2 3 4 5	1 2 3 4 5 NA	35,36
16) Making efficient use of class time	1 2 3 4 5	1 2 3 4 5 NA	37,38
17) Maintaining classroom order	1 2 3 4 5	1 2 3 4 5 NA	39,40
18) Identifying classroom misbehaviour	1 2 3 4 5	1 2 3 4 5 NA	41,42
19) Developing a system for keeping class records	1 2 3 4 5	1 2 3 4 5 NA	43,44
20) Grouping students for instruction	1 2 3 4 5	1 2 3 4 5 NA	45,46
21) Arranging the classroom environment	1 2 3 4 5	1 2 3 4 5 NA	47,48

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation Low High	Office Use Only
IN MISCELLANEOUS CATEGORY (cont'd)			
22) Identifying and developing a system for recording individual student progress	1 2 3 4 5	1 2 3 4 5 NA	49,50
23) Employing effective techniques to correct classroom behaviour	1 2 3 4 5	1 2 3 4 5 NA	51,52
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	1 2 3 4 5	1 2 3 4 5 NA	53,54
IN PROFESSIONAL AWARENESS			
1) Displaying interest in professional association	1 2 3 4 5	1 2 3 4 5 NA	55,56
2) Participating in the management of one's department/faculty	1 2 3 4 5	1 2 3 4 5 NA	57,58
3) Reading professional publications	1 2 3 4 5	1 2 3 4 5 NA	59,60
4) Displaying concern for continuing professional education	1 2 3 4 5	1 2 3 4 5 NA	61,62
5) Displaying commitment to the teaching of the profession	1 2 3 4 5	1 2 3 4 5 NA	63,64
6) Maintaining contact with practitioners of one's profession	1 2 3 4 5	1 2 3 4 5 NA	65,66

SECTION III

Evaluation of the Teacher Preparation Program (Medical Education) by the Graduates

Overview: An evaluation of a teacher education program must include the views of its graduates. Contained in this section are important data concerning major components of your teacher preparation program. You are requested to complete the component parts of this section.

PART A

Please rate the following in terms of its effectiveness in preparing you for your teaching role:

	Highly Effective		Adequate	Not Effective		No Opinion/ Does Not Apply	Office Use Only
Textbooks and required readings	5	4	3	2	1	NA	67
Lectures (Kenyatta University College)	5	4	3	2	1	NA	68
Lectures (Kenya Institute of Administration)	5	4	3	2	1	NA	69
Lectures (Medical Training Centre & Kenyatta National Hospital)	5	4	3	2	1	NA	70
Examinations (Kenyatta University College)	5	4	3	2	1	NA	71
Examinations (Kenya Institute of Administration)	5	4	3	2	1	NA	72
Examinations (Medical Training Centre & Kenyatta National Hospital)	5	4	3	2	1	NA	73
The Termination Project (Thesis)	5	4	3	2	1	NA	74
Conferences with Supervisors	5	4	3	2	1	NA	75
Teaching Practice	5	4	3	2	1	NA	76

PART A (cont'd)

	Highly Effective		Ade-quate	Not Effective		No Opinion/ Does Not Apply	Office Use Only
Seminars	5	4	3	2	1	NA	77
Educational Tours	5	4	3	2	1	NA	78
Guest Speakers	5	4	3	2	1	NA	79

PART B

Please indicate the extent to which you agree or disagree with each of the statements listed by circling the appropriate number on the scale

5 (SA) Strongly Agree
4 (A) Agree
3 (N) Neutral; No Opinion; Does Not Apply
2 (D) Disagree
1 (SD) Strongly Disagree

STATEMENTS	SA	A	N	D	SD	Office Use Only 4 1 - 4
I. INSTRUCTIONAL DEVELOPMENT						
1. The program has assisted me to understand theories of learning	5	4	3	2	1	5
2. I consider that enough time was devoted to curriculum theories	5	4	3	2	1	6
3. The program has assisted me to increase my knowledge of measurement and evaluation concepts	5	4	3	2	1	7
4. The time allocated for teaching practice was sufficient	5	4	3	2	1	8
5. The program has assisted me to clarify and define attitudes, values and assumptions regarding teaching/learning processes	5	4	3	2	1	9
6. The program has assisted me to define specific measurable objectives	5	4	3	2	1	10

STATEMENTS	SA	A	N	D	SD	Office Use Only
I. INSTRUCTIONAL DEVELOPMENT (cont'd)						
7. As a result of participating in this program, I am capable of designing and developing alternative learning materials for my students	5	4	3	2	1	11
8. I feel a lot better as a teacher and a professional today	5	4	3	2	1	12
9. On the whole, I am more confident in my teaching ability	5	4	3	2	1	13
10. The program had a significant impact on my teaching style	5	4	3	2	1	14
11. The program has enabled me to become a better manager of the learning environment	5	4	3	2	1	15
12. I am better at diagnosing student learning problems today than I was before taking the program	5	4	3	2	1	16
II. PERSONAL DEVELOPMENT						
1. I feel a lot better as a person today than I did before participating in this program	5	4	3	2	1	17
2. I discuss teaching with my colleagues and administrators more often than I did prior to this program	5	4	3	2	1	18
3. The program equipped me with therapeutic and supportive counselling techniques	5	4	3	2	1	19
4. I earn a little bit more as a result of participating in this program	5	4	3	2	1	20
5. The program has helped me to become an active participant in the management of student affairs	5	4	3	2	1	21
6. My relationship with my colleagues has improved considerably	5	4	3	2	1	22

STATEMENTS	SA	A	N	D	SD	Office Use Only
II. PERSONAL DEVELOPMENT (cont'd)						
7. I interact more effectively with students than I did before participating in this program	5	4	3	2	1	23
8. The program has assisted me to identify areas of personal and professional strengths and areas which need to be improved	5	4	3	2	1	24
III. ORGANIZATIONAL DEVELOPMENT						
1. I feel better equipped with conflict-management skills today than before participating in this program	5	4	3	2	1	25
2. My managerial development skills have been enhanced by this program	5	4	3	2	1	26
3. My problem-solving skills have been enhanced as a result of participating this program	5	4	3	2	1	27
4. As a result of participating in this program, my decision-making skills have been enhanced	5	4	3	2	1	28
5. The program has assisted me to clarify organizational goals	5	4	3	2	1	29
6. The program has assisted me to develop policies relating to teaching and learning	5	4	3	2	1	30
7. As a result of participating in this program, I am capable of developing management policies that are responsive to individuals with varying work styles and temperaments	5	4	3	2	1	31
IV. PROGRAM ORGANIZATION/MANAGEMENT						
1. The goals of the program were of immediate benefit to my teaching career	5	4	3	2	1	32

STATEMENTS	SA	A	N	D	SD	Office Use Only
IV. PROGRAM ORGANIZATION/MANAGEMENT (cont'd)						
2. The general atmosphere of the program was conducive to serious work	5	4	3	2	1	33
3. During the course of the program, I was given the opportunity to work at my own pace	5	4	3	2	1	34
4. The manner in which the program was conducted was in line with the educational principles it discussed	5	4	3	2	1	35
5. The attitude of the various instructors was conducive to "free learning"	5	4	3	2	1	36
6. I consider the way the program is run appropriate	5	4	3	2	1	37
7. I consider the facilities provided for study sufficient	5	4	3	2	1	38
V. GRADUATE SATISFACTION						
1. I consider the quality of this program satisfactory	5	4	3	2	1	39
2. My expectations of the program were met to my satisfaction	5	4	3	2	1	40
3. The program is definitely of practical significance to my teaching	5	4	3	2	1	41
4. I will certainly recommend the adoption of this program as a vital component of medical education in Kenya	5	4	3	2	1	42
5. In an overall, general sense, I am very satisfied with the program	5	4	3	2	1	43

SECTION IV

Your Evaluation of the Overall Success of the Teacher Preparation Program (Medical Education)

Instructions: You are asked to rate the overall success of the teacher preparation program (Medical Education) that you experienced.

Would you please check [✓] the one box below which most accurately describes your perception of the program's overall success.

Office Use Only

(4) Highly Successful ☐

(3) Moderately Successful ☐

(2) Slightly Successful ☐

(1) NOT Successful ☐

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SECTION V

Open-Ended Response

Instructions: You are provided with an opportunity to reflect on the planning, coordination, and day-to-day management of the program under study. Please provide information on:

A. The factors which impressed you most favorably and would like to have them maintained.

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________

B. The factors which impressed you most unfavorably and would like to have them discontinued or revised.

1. ______________________________

2. ______________________________

3. ______________________________

4. ______________________________

5. ______________________________

C. Other Comments:

____

____

____

____

____

____

Thank you for your cooperation!

HEAD OF DEPARTMENT (SUPERVISOR) QUESTIONNAIRE

SECTION I

Demographic/Personal Data

Instructions: Please provide the following information about yourself. Check [✓] the appropriate box or fill in the blank space.

	Office Use Only
	1 – 4
1. Your Faculty/Department: ____________	5,6
2. Age: (1) 20-29 yrs. ____ (2) 30-39 yrs. ____ (3) 40-49 yrs. ____ (4) 50 yrs. or over ____	7
3. Sex: (1) Male ____ (2) Female ____	8
4. Teaching Experience: (1) less than 1 yr. ____ (2) 1 - 3 yrs. ____ (3) 4 - 6 yrs. ____ (4) 7 - 9 yrs. (5) 10 yrs. or over ____	9
5. Job Group: (1) Group G ____ (2) Group H ____ (3) Group J ____ (4) Group K ____ (5) Group L or over ____	10
6. Highest Professional Qualification: (1) Diploma ____ (2) Bachelor's degree ____ (3) Master's degree ____ (4) Other (specify) ____________	11
7. Have you had teacher training? (1) Yes ____ (2) No ____	12
8. How many instructors from your faculty/department are graduates of the Teacher Training Program (Medical Education)? (1) None ____ (2) 1-2 ____ (3) 3-4 ____ (4) 5 or more ____ (5) Don't know ____	13
9. Accessibility to program: (1) Easily accessible ____ (2) Not easily accessible ____	14

SECTION II

Teaching Skills, Attitudes, and Knowledge

Instructions: In this section you are asked to reflect on the Teacher Training Program (Medical Education) and its graduates who are members of your instructional staff.

* If your answer to question 8 of Section I is None [meaning that you don't have a graduate of this program in your instructional staff], COMPLETE THE PART ON IMPORTANCE OF SKILLS, ATTITUDES, AND KNOWLEDGE only.

* If, on the other hand, your answer to question 8 of Section I indicates that one or more instructors in your instructional staff is a graduate of this program, COMPLETE BOTH PARTS, i.e. THE IMPORTANCE PART as well as the PART ON HOW WELL YOU FEEL YOUR INSTRUCTOR(s) WAS (were) PREPARED IN EACH SKILL, ATTITUDE, OR KNOWLEDGE.

Indicate by circling the appropriate number on the scale:

A. Your assessment of the degree of Importance of each skill, attitude, or knowledge to the teaching of your discipline.

Low				High
1	2	3	4	5

B. How WELL you feel your instructor(s) was(were) prepared in each skill, attitude, or knowledge.

Circle 1 (VP) Very Poorly

Circle 2 (P) Poorly

Circle 3 (A) Adequately

Circle 4 (W) Well

Circle 5 (VW) Very Well

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation VP P A W VW	Office Use Only
IN LESSON PREPARATION			
1) Judging the appropriateness of instruction materials	1 2 3 4 5	1 2 3 4 5	15,16
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training	1 2 3 4 5	1 2 3 4 5	17,18
3) Selecting appropriate methods of teaching	1 2 3 4 5	1 2 3 4 5	19,20
4) Organizing course content in a fashion that is understandable to students	1 2 3 4 5	1 2 3 4 5	21,22
5) Stating instructional objectives in behavioral terms	1 2 3 4 5	1 2 3 4 5	23,24
6) Defining the objectives of particular lessons and units in terms of student behaviors	1 2 3 4 5	1 2 3 4 5	25,26
7) Planning instructional activities	1 2 3 4 5	1 2 3 4 5	27,28
8) Selecting appropriate subject content	1 2 3 4 5	1 2 3 4 5	29,30
9) Preparing lesson plans	1 2 3 4 5	1 2 3 4 5	31,32
10) Selecting appropriate content from a large body of expanding knowledge	1 2 3 4 5	1 2 3 4 5	33,34
11) Selecting appropriate teaching materials	1 2 3 4 5	1 2 3 4 5	35,36

Statement of Skills, Attitudes and Knowledge	Degree of Importance	Level of Preparation	Office Use Only
	Low High	VP P A W VW	
IN LESSON PREPARATION (cont'd)			
12) Seeking and using the assistance of educational specialists or planning when appropriate	1 2 3 4 5	1 2 3 4 5	37,38
13) Preparing appropriate teaching aids	1 2 3 4 5	1 2 3 4 5	39,40
14) Applying accepted principles of adult learning in the design of instructional stretagies.	1 2 3 4 5	1 2 3 4 5	41,42
15) Determining learner characteristics	1 2 3 4 5	1 2 3 4 5	43,44
16) Involving students in the process of defining objectives	1 2 3 4 5	1 2 3 4 5	45,46
IN COMMUNICATION			
1) Orally communicating information on a given topic in a coherent logical manner	1 2 3 4 5	1 2 3 4 5	47,48
2) Writing in a logical, easily understood style with appropriate grammar and sentence structure	1 2 3 4 5	1 2 3 4 5	49,50
3) Comprehending and correctly interpreting a message after listening	1 2 3 4 5	1 2 3 4 5	51,52
4) Ability to read, comprehend, interpret professional material	1 2 3 4 5	1 2 3 4 5	53,54

Statement of Skills, Attitudes, and Knowledge	Degree of Importance					Level of Preparation					Office Use Only
	Low				High	VP	P	A	W	VW	
IN LESSON PRESENTATION											
1) Using effective questioning techniques	1	2	3	4	5	1	2	3	4	5	55,56
2) Using wit and humour effectively	1	2	3	4	5	1	2	3	4	5	57,58
3) Encouraging class discussion	1	2	3	4	5	1	2	3	4	5	59,60
4) Sequencing instructional activities	1	2	3	4	5	1	2	3	4	5	61,62
5) Maintaining an environment conducive to learning	1	2	3	4	5	1	2	3	4	5	63,64
6) Adapting to unexpected classroom situations	1	2	3	4	5	1	2	3	4	5	65,66
7) Utilizing technological equipment to foster effective learning	1	2	3	4	5	1	2	3	4	5	67,68
8) Relating to students' experience	1	2	3	4	5	1	2	3	4	5	69,70
9) Continually varying the learning situation in order to keep the students involved	1	2	3	4	5	1	2	3	4	5	71,72
10) Effectively reinforcing certain kinds of student behaviour	1	2	3	4	5	1	2	3	4	5	73,74
11) Using valid approaches in teaching	1	2	3	4	5	1	2	3	4	5	75,76
12) Making difficult topics easy to understand	1	2	3	4	5	1	2	3	4	5	78,79
											I - - - 2 4
13) Explaining things thoroughly	1	2	3	4	5	1	2	3	4	5	5,6
14) Presenting reinforcement promptly	1	2	3	4	5	1	2	3	4	5	7,8
15) Maintaining the pace of a lesson	1	2	3	4	5	1	2	3	4	5	9,10

Statement of Skills, Attitudes, and Knowledge	Degree of Importance					Level of Preparation					Office Use Only
	Low				High	VP	P	A	W	VW	
IN LESSON PRESENTATION (cont'd)											
16) Displaying thorough knowledge of subject matter	1	2	3	4	5	1	2	3	4	5	11,12
17) Summarizing major points	1	2	3	4	5	1	2	3	4	5	13,14
18) Individualizing instruction	1	2	3	4	5	1	2	3	4	5	15,16
19) Presenting evidence in controversial issues	1	2	3	4	5	1	2	3	4	5	17,18
20) Referring students to additional resource persons and materials	1	2	3	4	5	1	2	3	4	5	19,20
21) Generating enthusiasm	1	2	3	4	5	1	2	3	4	5	21,22
22) Providing varied learning experiences for achieving objectives	1	2	3	4	5	1	2	3	4	5	23,24
IN INTERPERSONAL RELATIONSHIPS											
1) Showing warmth and sympathy to students	1	2	3	4	5	1	2	3	4	5	25,26
2) Developing positive relationships with students	1	2	3	4	5	1	2	3	4	5	27,28
3) Conveying confidence in and respect for student	1	2	3	4	5	1	2	3	4	5	29,30
4) Being sensitive to students' needs and feelings	1	2	3	4	5	1	2	3	4	5	31,32
5) Motivating students	1	2	3	4	5	1	2	3	4	5	33,34
6) Working well with other teachers and clinical instructors	1	2	3	4	5	1	2	3	4	5	35,36
7) Showing genuine interest in what students say	1	2	3	4	5	1	2	3	4	5	37,38
8) Working well with administrators	1	2	3	4	5	1	2	3	4	5	39,40

Statement of Skills, Attitudes, and Knowledge	Degree of Importance					Level of Preparation					Office Use Only
	Low				High	VP	P	A	W	VW	
IN INTERPERSONAL RELATIONSHIPS (cont'd)											
9) Interacting well with faculty from other disciplines	1	2	3	4	5	1	2	3	4	5	41,42
10) Assisting students to develop their own values, attitudes and beliefs	1	2	3	4	5	1	2	3	4	5	43,44
11) Being accessible to students out of class	1	2	3	4	5	1	2	3	4	5	45,46
12) Participating on interdepartmental committees	1	2	3	4	5	1	2	3	4	5	47,48
IN ASSESSMENT											
1) Evaluating student achievement	1	2	3	4	5	1	2	3	4	5	49,50
2) Diagnosing students' learning needs	1	2	3	4	5	1	2	3	4	5	51,52
3) Monitoring students' progress	1	2	3	4	5	1	2	3	4	5	53,54
4) Evaluating one's (teacher's) progress	1	2	3	4	5	1	2	3	4	5	55,56
5) Constructing examinations	1	2	3	4	5	1	2	3	4	5	57,58
6) Understanding evaluation theories	1	2	3	4	5	1	2	3	4	5	59,60
7) Grading examinations	1	2	3	4	5	1	2	3	4	5	61,62
8) Analyzing test items for the sake of accumulating valid and reliable question tools	1	2	3	4	5	1	2	3	4	5	63,64
9) Evaluating clinical performance	1	2	3	4	5	1	2	3	4	5	65,66
10) Providing prompt feedback on examinations and assignments	1	2	3	4	5	1	2	3	4	5	67,68

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation VP P A W VW	Office Use Only
IN ASSESSMENT (cont'd)			
11) Identifying need for diagnostic testing	1 2 3 4 5	1 2 3 4 5	69,70
12) Giving tests that are pertinent to course objectives	1 2 3 4 5	1 2 3 4 5	71,72
13) Being fair in evaluations	1 2 3 4 5	1 2 3 4 5	73,74
14) Telling students when they have done well	1 2 3 4 5	1 2 3 4 5	75,76
15) Reviewing tests with students	1 2 3 4 5	1 2 3 4 5	77,78
16) Being concerned with learning rather than testing	1 2 3 4 5	1 2 3 4 5	79,80 3 I - - - 4
17) Correcting students promptly	1 2 3 4 5	1 2 3 4 5	5,6
18) Recognizing special achievement	1 2 3 4 5	1 2 3 4 5	7,8
19) Interpreting diagnostic test results	1 2 3 4 5	1 2 3 4 5	9,10
IN MISCELLANEOUS CATEGORY			
1) Understanding and applying curriculum theories	1 2 3 4 5	1 2 3 4 5	11,12
2) Conducting research	1 2 3 4 5	1 2 3 4 5	13,14
3) Developing curricula for one's discipline	1 2 3 4 5	1 2 3 4 5	15,16
4) Understanding and applying various teaching methods	1 2 3 4 5	1 2 3 4 5	17,18
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	1 2 3 4 5	1 2 3 4 5	19,20
6) Appreciating educational psychology	1 2 3 4 5	1 2 3 4 5	21,22

Statement of Skills, Attitudes, and Knowledge	Degree of Importance	Level of Preparation	Office Use Only
	Low High	VP P A W VW	
IN MISCELLANEOUS CATEGORY (cont'd)			
7) Understanding statistical concepts	1 2 3 4 5	1 2 3 4 5	23,24
8) Utilizing various research methods	1 2 3 4 5	1 2 3 4 5	25,26
9) Using critical incident technique to derive course objectives	1 2 3 4 5	1 2 3 4 5	27,28
10) Using group dynamic skills	1 2 3 4 5	1 2 3 4 5	29,30
11) Utilizing statistical procedures in classroom record keeping	1 2 3 4 5	1 2 3 4 5	31,32
12) Appreciating student counselling	1 2 3 4 5	1 2 3 4 5	33,34
13) Utilizing management theories to foster classroom discipline	1 2 3 4 5	1 2 3 4 5	35,36
14) Understanding sociology of education	1 2 3 4 5	1 2 3 4 5	37,38
15) Developing teaching manuals	1 2 3 4 5	1 2 3 4 5	39,40
16) Making efficient use of class time	1 2 3 4 5	1 2 3 4 5	41,42
17) Maintaining classroom order	1 2 3 4 5	1 2 3 4 5	43,44
18) Identifying classroom misbehaviour	1 2 3 4 5	1 2 3 4 5	45,46
19) Developing a system for keeping class records	1 2 3 4 5	1 2 3 4 5	47,48
20) Grouping students for instruction	1 2 3 4 5	1 2 3 4 5	49,50
21) Arranging the classroom environment	1 2 3 4 5	1 2 3 4 5	51,52

Statement of Skills, Attitudes, and Knowledge	Degree of Importance Low High	Level of Preparation VP P A W VW	Office Use Only
IN MISCELLANEOUS CATEGORY (cont'd)			
22) Identifying and developing a system for recording individual student progress	1 2 3 4 5	1 2 3 4 5	53,54
23) Employing effective techniques to correct classroom behaviour	1 2 3 4 5	1 2 3 4 5	55,56
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	1 2 3 4 5	1 2 3 4 5	57,58
IN PROFESSIONAL AWARENESS			
1) Displaying interest in professional association	1 2 3 4 5	1 2 3 4 5	59,60
2) Participating in the management of one's department/faculty	1 2 3 4 5	1 2 3 4 5	61,62
3) Reading professional publications	1 2 3 4 5	1 2 3 4 5	63,64
4) Displaying concern for continuing professional education	1 2 3 4 5	1 2 3 4 5	65,66
5) Displaying commitment to the teaching of the profession	1 2 3 4 5	1 2 3 4 5	67,68
6) Maintaining contact with practitioners of one's profession	1 2 3 4 5	1 2 3 4 5	69,70

SECTION III

Your Evaluation of the Overall Success of the Teacher Preparation Program (Medical Education)

Instructions: You are asked to rate the overall success of the teacher preparation program (Medical Education).

Would you please check [✓] the one box below which most accurately describes your perception of the program's overall success.

		Office Use Only
(4) Highly Successful	☐	
(3) Moderately Successful	☐	
(2) Slightly Successful	☐	71
(1) NOT Successful	☐	

Additional Comments:

Thank you for your cooperation!

NON-PARTICIPANTS' QUESTIONNAIRE

SECTION I

Demographic/Personal Data

Instructions: Please provide the following information about yourself. The information you provide will only be used in a summary form to help the researcher determine the extent to which some of these items may influence the faculty members' perception of the program under study. Please check [✓] the appropriate box or fill in the blank space.

	Office Use Only
	1 I - - - 4
1. Your Faculty/Department: ______________	5,6
2. Age: (1) 20-29 yrs. ____ (2) 30 - 39 yrs. ____ (3) 40-49 yrs. ____ (4) 50 yrs. or over ____	7
3. Sex: (1) Male ____ (2) Female ____	8
4. Teaching Experience: (1) Less than 1 yr. ____ (2) 1 - 3 yrs. ____ (3) 4 - 6 yrs. ____ (4) 7 - 9 yrs. ____ (5) 10 yrs. or over ____	9
5. Job Group: (1) Group G ____ (2) Group H ____ (3) Group J ____ (4) Group K ____ (5) Group L or over ____	10
6. Highest Professional Qualification: (1) Diploma ____ (2) Bachelor's degree ____ (3) Master's degree ____ (4) Other (specify) ______________	11
7. Your knowledge of the Teacher Training Program (Medical Education) (1) Full knowledge ____ (2) Some knowledge ____ (3) No Knowledge ____	12
8. Accessibility to the Program: (1) Easily Accessible ____ (2) Not accessible ____ (3) Don't know/No opinion ____	13

SECTION II

Teaching Skills, Attitudes and Knowledge

Instructions: In this section, you are asked to reflect on your teaching job. Indicate, by circling the appropriate number on the scale provided, your assessment of the degree of importance of each skill, attitude and knowledge to you as a teacher of allied health (paramedical) personnel.

Statement of Skills, Attitudes and Knowledge	Degree of Importance Low High	Office Use Only
IN LESSON PREPARATION		
1) Judging the appropriateness of instruction materials	1 2 3 4 5	14
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training	1 2 3 4 5	15
3) Selecting appropriate methods of teaching	1 2 3 4 5	16
4) Organizing course content in a fashion that is understandable to students	1 2 3 4 5	17
5) Stating instructional objectives in behavioral terms	1 2 3 4 5	18
6) Defining the objectives of particular lessons and units in terms of student behaviors	1 2 3 4 5	19
7) Planning instructional activities	1 2 3 4 5	20
8) Selecting appropriate subject content	1 2 3 4 5	21
9) Preparing lesson plans	1 2 3 4 5	22
10) Selecting appropriate content from a large body of expanding knowledge	1 2 3 4 5	23
11) Selecting appropriate teaching materials	1 2 3 4 5	24

Statement of Skills, Attitudes and Knowledge	Degree of Importance Lo				High	Office Use Only
IN LESSON PREPARATION (cont'd)						
12) Seeking and using the assistance of educational specialists or planning when appropriate	1	2	3	4	5	25
13) Preparing appropriate teaching aids	1	2	3	4	5	26
14) Applying accepted principles of adult learning in the design of instructional strategies	1	2	3	4	5	27
15) Determining learner characteristics	1	2	3	4	5	28
16) Involving students in the process of defining objectives	1	2	3	4	5	29
IN COMMUNICATION						
1) Orally communicating information on a given topic in a coherent logical manner	1	2	3	4	5	30
2) Writing in a logical, easily understood style with appropriate grammar and sentence structure	1	2	3	4	5	31
3) Comprehending and correctly interpreting a message after listening	1	2	3	4	5	32
4) Ability to read, comprehend, interpret professional material	1	2	3	4	5	33
IN LESSON PRESENTATION						
1) Using effective questioning techniques	1	2	3	4	5	34
2) Using wit and humour effectively	1	2	3	4	5	35
3) Encouraging class discussion	1	2	3	4	5	36
4) Sequencing instructional activities	1	2	3	4	5	37
5) Maintaining an environment conducive to learning	1	2	3	4	5	38

Statement of Skills, Attitudes and Knowledge	Degree of Importance Low High	Office Use Only
IN LESSON PRESENTATION (cont'd)		
6) Adapting to unexpected classroom situations	1 2 3 4 5	39
7) Utilizing technological equipment to foster effective learning	1 2 3 4 5	40
8) Relating to students' experience	1 2 3 4 5	41
9) Continually varying the learning situation in order to keep the students involved	1 2 3 4 5	42
10) Effectively reinforcing certain kinds of student behaviour	1 2 3 4 5	43
11) Using valid approaches in teaching	1 2 3 4 5	44
12) Making difficult topics easy to understand	1 2 3 4 5	45
13) Explaining things thoroughly	1 2 3 4 5	46
14) Presenting reinforcement promptly	1 2 3 4 5	47
15) Maintaining the pace of a lesson	1 2 3 4 5	48
16) Displaying thorough knowledge of subject matter	1 2 3 4 5	49
17) Summarizing major points	1 2 3 4 5	50
18) Individualizing instruction	1 2 3 4 5	51
19) Presenting evidence in controversial issues	1 2 3 4 5	52
20) Referring students to additional resource persons and materials	1 2 3 4 5	53
21) Generating enthusiasm	1 2 3 4 5	54
22) Providing varied learning experiences for achieving objectives	1 2 3 4 5	55

Statement of Skills, Attitudes and Knowledge	Degree of Importance					Office Use Only
	Low				High	
IN INTERPERSONAL RELATIONSHIPS						
1) Showing warmth and sympathy to students	1	2	3	4	5	56
2) Developing positive relationships with students	1	2	3	4	5	57
3) Conveying confidence in and respect for student	1	2	3	4	5	58
4) Being sensitive to students' needs and feelings	1	2	3	4	5	59
5) Motivating students	1	2	3	4	5	60
6) Working well with other teachers and clinical instructors	1	2	3	4	5	61
7) Showing genuine interest in what students say	1	2	3	4	5	62
8) Working well with administrators	1	2	3	4	5	63
9) Interacting well with faculty from other disciplines	1	2	3	4	5	64
10) Assisting students to develop their own values, attitudes and beliefs	1	2	3	4	5	65
11) Being accessible to students out of class	1	2	3	4	5	66
12) Participating on inter-departmental committees	1	2	3	4	5	67
IN ASSESSMENT						
1) Evaluating student achievement	1	2	3	4	5	68
2) Diagnosing students' learning needs	1	2	3	4	5	69
3) Monitoring students' progress	1	2	3	4	5	70
4) Evaluating one's (teacher's) progress	1	2	3	4	5	71
5) Constructing examinations	1	2	3	4	5	72

Statement of Skills, Attitudes and Knowledge	Degree of Importance					Office Use Only
	Low				High	
IN ASSESSMENT (cont'd)						
6) Understanding evaluation theories	1	2	3	4	5	73
7) Grading examinations	1	2	3	4	5	74
8) Analyzing test items for the sake of accumulating valid and reliable question tools	1	2	3	4	5	75
9) Evaluating clinical performance	1	2	3	4	5	76
10) Providing prompt feedback on examinations and assignments	1	2	3	4	5	77
11) Identifying need for diagnostic testing	1	2	3	4	5	78
12) Giving tests that are pertinent to course objectives	1	2	3	4	5	79
13) Being fair in evaluations	1	2	3	4	5	80
						— — — — 2 1 - 4
14) Telling students when they have done well	1	2	3	4	5	5
15) Reviewing tests with students	1	2	3	4	5	6
16) Being concerned with learning rather than testing	1	2	3	4	5	7
17) Correcting students promptly	1	2	3	4	5	8
18) Recognizing special achievement	1	2	3	4	5	9
19) Interpreting diagnostic test results	1	2	3	4	5	10
IN MISCELLANEOUS CATEGORY						
1) Understanding and applying curriculum theories	1	2	3	4	5	11
2) Conducting research	1	2	3	4	5	12
3) Developing curricula for one's discipline	1	2	3	4	5	13
4) Understanding and applying various teaching methods	1	2	3	4	5	14

Statement of Skills, Attitudes and Knowledge	Degree of Importance Low				High	Office Use Only
IN MISCELLANEOUS CATEGORY (cont'd)						
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	1	2	3	4	5	15
6) Appreciating educational psychology	1	2	3	4	5	16
7) Understanding statistical concepts	1	2	3	4	5	17
8) Utilizing various research methods	1	2	3	4	5	18
9) Using critical incident technique to derive course objectives	1	2	3	4	5	19
10) Using group dynamic skills	1	2	3	4	5	20
11) Utilizing statistical procedures in classroom record keeping	1	2	3	4	5	21
12) Appreciating student counselling	1	2	3	4	5	22
13) Utilizing management theories to foster classroom discipline	1	2	3	4	5	23
14) Understanding sociology of education	1	2	3	4	5	24
15) Developing teaching manuals	1	2	3	4	5	25
16) Making efficient use of class time	1	2	3	4	5	26
17) Maintaining classroom order	1	2	3	4	5	27
18) Identifying classroom misbehaviour	1	2	3	4	5	28
19) Developing a system for keeping class records	1	2	3	4	5	29
20) Grouping students for instruction	1	2	3	4	5	30
21) Arranging the classroom environment	1	2	3	4	5	31
22) Identifying and developing a system for recording individual student progress	1	2	3	4	5	32
23) Employing effective techniques to correct classroom behaviour	1	2	3	4	5	33

Statement of Skills, Attitudes and Knowledge	Degree of Importance Low				High	Office Use Only
IN MISCELLANEOUS CATEGORY (cont'd)						
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	1	2	3	4	5	34
IN PROFESSIONAL AWARENESS						
1) Displaying interest in professional association	1	2	3	4	5	35
2) Participating in the management of one's department/faculty	1	2	3	4	5	36
3) Reading professional publications	1	2	3	4	5	37
4) Displaying concern for continuing professional education	1	2	3	4	5	38
5) Displaying commitment to the teaching of the profession	1	2	3	4	5	39
6) Maintaining contact with practitioners of one's profession	1	2	3	4	5	40

SECTION III

Your Evaluation of the Overall Success of the Teacher Preparation Program (Medical Education)

NB: This part should be completed by only those respondents who have some knowledge or full knowledge of the existence of the Teacher Training Program.

Instructions: You are asked to rate the overall success of the Teacher Preparation Program (Medical Education).

Would you please check [✓] the one box below which most accurately describes your perception of the program's overall success.

		Office Use Only
(4) Highly Successful	☐	
(3) Moderately Successful	☐	
(2) Slightly Successful	☐	
(1) NOT Successful	☐	41

Additional Comments:

____

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Thank you for your cooperation!

APPENDIX B

LETTERS OF TRANSMITTAL

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL
ADMINISTRATION

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

June 13, 1983

Dear Colleague:

I am conducting an investigation to determine the extent to which the Teacher Preparation Program (Medical Education) is perceived as being effective in preparing teachers of health professions. I am hopeful that this study will yield useful information upon which further development of this program could be based.

You have been selected to participate in the study because as a graduate of the program, you are in the best position to provide information concerning the program. I am writing, therefore, to invite you to participate in this study by taking some time to reflect on the program and to give your thoughtful, honest and impartial judgement and reactions to the skills, attitudes, knowledge, and statements presented in the enclosed questionnaire.

The responses you provide will be held in utmost confidence, and on no account will any specific response be identified with a particular individual. All the responses will be analyzed and reported in a summary form.

Your participation will be a great asset to this study and, indeed, to the future of the Faculty of Educational Research and Development.

Please return your completed questionnaire as soon as possible to Dr. A. Mutema, Faculty of Educational Research and Development, Medical Training Centre, P.O. Box 30195, Nairobi.

Thank you.

Yours sincerely,

Peter M. Ngatia

PMN/jl
Encl.

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL
ADMINISTRATION

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

June 13, 1983

Dear Head of Department,

I am conducting an investigation to determine the extent to which the Teacher Education Program (Medical Education), currently being conducted by the Faculty of Educational Research and Development in M.T.C., is perceived as being effective in preparing teachers of health professions. I am hopeful that the findings of this study will yield useful information upon which further development of this program could be based.

You have been selected to participate in this study because as the Head of your Department, you can easily assess the adequacy of the program by observing those members of your instructional staff who have participated in the program, and noting how well they perform their teaching roles. I am writing, therefore, to invite you to participate in this study by completing the enclosed questionnaire. Your thoughtful, honest and impartial judgement will enhance the validity of the findings of this study.

Let me assure you that the responses you provide will be held in utmost confidence. On no account will any specific response be identified with a particular individual. All responses will be analyzed and reported in a summary form.

Your cooperation in participating in this study will be a great asset to the study and, indeed, to the future of the Faculty of Educational Research and Development.

Please return your completed questionnaire to Dr. A. Mutema, Faculty of Educational Research and Development, Medical Training Centre, P.O. Box 30195, Nairobi.

Thank you.

Yours sincerely,

Peter Muchiri Ngatia

PMN/jl

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL
ADMINISTRATION

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

June 13, 1983

Dear Colleague:

I am conducting a study to determine the effectiveness of the Teacher Education Program (Medical Education). In order to accomplish this primary objective, I intend to profile the skills, attitudes, and knowledge perceived as necessary for effective teaching within health disciplines.

You have been selected to participate in the study. As a teacher in an allied health (paramedical) discipline, you are in the best position to evaluate the degree of importance of the listed skills, attitudes, and knowledge, and to supply the researcher with others that may not be listed in the enclosed questionnaire.

Your participation will be a great asset to this study and, indeed, to the whole area of medical education.

Please return your completed questionnaire to Dr. A. Mutema, Faculty of Educational Research and Development, Medical Training Centre, P.O. Box 30195, Nairobi.

Thank you!

Yours faithfully,

Peter Muchiri Ngatia

PMN/jl
Encl.

APPENDIX C

CORRESPONDENCE WITH EMPLOYER AND DIRECTOR

Department of Educational
Administration
University of Alberta
Edmonton, Alberta T6G 2G5

January 6, 1982

The Permanent Secretary
Directorate of Personnel
Office of the President
P.O. Box 30050
Nairobi

Thro.

The Kenya High Commission Canada
141 Laurier Avenue West
Gillin Building
Suite 600
Ottawa
K1P 5J3

Dear Sir:

Re: Application for Scholarship Extension and Research Grant

I wish to apply for an extension of my scholarship (funded by DANIDA) which expired in November, 1981. The extension will enable me to complete a Ph.D. program in Educational Administration, specializing among other fields of study in Professional Development (Faculty development) for the teachers of Allied Health - 'Medical Education'.

I am on the verge of completing the course-work requirements for the program and at the beginning stages of developing a research proposal for the doctoral dissertation. For this research endeavour, I have elected to conduct an investigation on the 'Effectiveness of the Medical Education Program' currently being conducted at the Medical Training Centre, Nairobi (my employing institution). I am therefore applying for a research grant, in addition to the sponsorship, to enable me to travel to Kenya to conduct the study and return to Edmonton to complete the dissertation. Enclosed please find a brief tentative proposal and a time-line for the study.

....2

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I will anxiously await your response.

Yours faithfully,

Peter M. Ngatia P/NO 152103

PMN/jl
Encl.

cc: The Permanent Secretary
Directorate of Personnel
Office of the President
P.O. Box 30050
NAIROBI

Thro.

The Kenya High Commission Canada
141 Laurier Avenue West
Gillin Building
Suite 600
OTTAWA
K1P 5J3

Telegrams: **"Kenyarep Ottawa"**
Telex: **053-4873**

Telephones: **563-1773**
563-1774
563-1775
563-1776

Kenya High Commission
Gillin Building, Suite 600
141 Laurier Avenue West
Ottawa, Ontario. K1P 5J3
Canada

Date. 24th February, 1982

When replying please quote

Ref No. KHC/CDN/EDU/1A/VOL.II/3
and date

Mr. Peter M. Ngatia,
7-130D, Education North,
University of Alberta,
Edmonton, Alberta,
T6G 2G5.

Dear Mr. Ngatia,

APPLICATION FOR SCHOLARSHIP EXTENSION AND RESEARCH GRANT.

Further to my telephone conversation with you on Tuesday, 23rd February, 1982, I wish to confirm that your application for scholarship extension and research grant by your letter of 6th January, 1982 has been rejected by the Government. I have therefore been directed to advise you to return to Kenya and report for duty immediately.

Yours sincerely,

RGathungu

(R.K. Gathungu)
for: HIGH COMMISSIONER.

c.c. The Permanent Secretary/Director
Directorate of Personnel Management
P.O. Box 30050,
Nairobi.
Your letter DPM 7/14/1/Vol.XVI(40)
of 8/2/82 refers.

The Permanent Secretary,
Ministry of Health
P.O. Box 30016,
Nairobi.
Your letter Ref. N° 152103/84 of
27/1/82 refers.

RKG/ao

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL
ADMINISTRATION

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

15th June, 1983

Dear Dr. Mutema:

Greetings from Edmonton!

Enclosed please find the questionnaires for my study. They are in three sets identifiable by colour codes. Administer these to the three cohorts of this study, viz. the graduates of the program, the heads of departments/faculties (supervisors), and the faculty of Medical Training Centre and other allied health training institutions who have not participated in the teacher education program.

The Questionnaires:

1. Colour code 'yellow': There are 60 questionnaires. Please administer these questionnaires to the graduates of the teacher education program who are currently teaching at allied health training institutions. Administer the questionnaires to the 1980, 1981, 1982, and 1983 classes.

   I am well aware of the length of the questionnaires. Please do what you can to convince the respondents that it is worth their while to complete the questionnaires.

2. Colour code 'blue': There are 20 questionnaires. Administer these questionnaires to the Heads of Departments/ Faculties (supervisors) who are currently working with the graduates as members of the instructional staff.

3. Colour code 'pink': There are 40 questionnaires. Please administer these to a RANDOMLY SELECTED group of allied health instructors who have NOT had the opportunity to participate in the teacher education program.

Please do your best to ensure a high rate of return. I thank you in advance.

Yours sincerely,

Peter Muchiri Ngatia

PMN/jl
Encl.

APPENDIX D

GRADUATES MEAN RATINGS OF IMPORTANCE AND LEVEL OF PREPARATION

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
IN LESSON PREPARATION:			
1) Judging the appropriateness of instructional materials	4.40	25	3.75
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training.	4.79	1	4.45
3) Selecting appropriate methods of teaching	4.72	4	4.32
4) Organizing course content in a fashion that is understandable to students	4.67	6	4.11
5) Stating instructional objectives in behavioral terms	4.72	4	4.57
6) Defining the objectives of particular lessons and units in terms of student behaviors	4.58	13	4.27
7) Planning instructional activities	4.39	28	4.19
8) Selecting appropriate subject content	4.66	7	4.26
9) Preparing lesson plans	4.38	27	3.
10) Selecting appropriate content from a large body of expanding knowledge	4.20	38	3.95

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
11) Selecting appropriate teaching materials	4.60	11	4.00
12) Seeking and using the assistance of educational specialists or planning when appropriate	3.90	49	3.47
13) Preparing appropriate teaching aids	4.41	24	3.69
14) Applying accepted principles of adult learning in the design of instructional strategies	3.95	47	3.48
15) Determining learner characteristics	4.37	28	3.86
16) Involving students in the process of defining objectives	3.76	51	3.27
IN COMMUNICATION:			
1) Orally communicating information on a given topic in a coherent logical manner	4.53	17	3.97
2) Writing in a logical, easily understood style with appropriate grammar and sentence structure	4.46	21	3.97
3) Comprehending and correctly interpreting a message after listening	4.44	23	3.73
4) Ability to read, comprehend, interpret professional material	4.48	20	3.85

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
IN LESSON PRESENTATION:			
1) Using effective questioning techniques	4.61	10	4.11
2) Using wit and humour effectively	4.04	44	3.63
3) Encouraging class discussion	4.57	14	4.23
4) Sequencing instructional activities	4.52	18	4.00
5) Maintaining an environment conducive to learning	4.59	12	3.71
6) Adapting to unexpected classroom situations	3.97	46	3.20
7) Utilizing technological equipment to foster effective learning	4.38	27	3.40
8) Relating to students' experience	4.26	34	4.21
9) Continually varying the learning situation in order to keep the students involved	4.54	16	4.17
10) Effectively reinforcing certain kinds of student behavior	4.57	14	4.26
11) Using valid approaches in teaching	4.45	22	4.10
12) Making difficult topics easy to understand	4.46	21	3.92
13) Explaining things thoroughly	4.35	29	3.92
14) Presenting reinforcement promptly	4.57	14	4.35

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
15) Maintaining the pace of a lesson	4.21	37	3.90
16) Displaying thorough knowledge of subject matter	4.44	23	3.73
17) Summarizing major points	4.69	5	4.20
18) Individualizing instruction	4.07	43	3.45
19) Presenting evidence in controversial issues	4.00	45	3.66
20) Referring students to additional resource persons and materials	4.58	13	4.37
21) Generating enthusiasm	4.27	33	3.97
22) Providing varied learning experiences for achieving objectives	4.60	11	4.11
ASSESSMENT:			
1) Evaluating student achievement	4.76	2	4.60
2) Diagnosing students' learning needs	4.58	13	4.11
3) Monitoring students' progress	4.69	5	4.27
4) Evaluating one's (teacher's) progress	4.40	25	3.81
5) Constructing examinations	4.79	1	4.42
6) Understanding evaluation theories	4.37	28	4.20
7) Grading examinations	4.44	23	4.22 4.22

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
8) Analyzing test items for the sake of accumulating valid and reliable question tools	4.48	20	3.95
9) Evaluating clinical performance	4.44	23	4.14
10) Providing prompt feedback on examinations and assignments	4.65	8	4.31
11) Identifying need for diagnostic testing	4.04	44	3.55
12) Giving tests that are pertinent to course objectives	4.72	4	4.39
13) Being fair in evaluations	4.39	26	4.09
14) Telling students when they have done well	4.62	9	4.21
15) Reviewing tests with students	4.27	33	4.02
16) Being concerned with learning rather than testing	3.92	48	3.81
17) Correcting students promptly	4.40	25	3.94
18) Recognizing special achievement	4.07	43	3.55
19) Interpreting diagnostic test results	4.16	40	3.82
IN MISCELLANEOUS CATEGORY:			
1) Understanding and applying curriculum theories	4.60	11	4.11
2) Conducting research	4.53	17	4.05

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
3) Developing curricula for one's discipline	4.74	3	4.19
4) Understanding and applying various teaching methods	4.74	3	4.53
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	4.41	24	3.88
6) Appreciating educational psychology	4.41	24	3.95
7) Understanding statistical concepts	4.18	39	3.63
8) Utilizing various research methods	4.39	26	3.53
9) Using critical incident technique to derive course objectives	3.82	56	3.35
10) Using group dynamic skills	4.11	42	3.67
11) Utilizing statistical procedures in classroom record keeping	3.95	47	3.31
12) Appreciating student counselling	4.26	34	3.36
13) Utilizing management theories to foster classroom discipline	4.37	28	3.64
14) Understanding sociology of education	4.26	34	3.32
15) Developing teaching manuals	4.32	31	3.53
16) Making efficient use of class time	4.37	28	3.82

(cont'd . . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
17) Maintaining classroom order	4.39	26	3.71
18) Identifying classroom misbehaviour	4.23	36	3.70
19) Developing a system for keeping class records	4.20	38	3.38
20) Grouping students for instruction	4.07	43	3.90
21) Arranging the classroom environment	4.14	41	3.48
22) Identifying and develop- a system for recording individual student progress	4.39	26	3.82
23) Employing effective techniques to correct classroom behaviour	4.14	41	3.42
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	4.51	19	4.02
IN INTERPERSONAL RELATIONSHIPS:			
1) Showing warmth and sympathy to students	4.25	35	4.00
2) Developing positive relationships with students	4.53	17	3.97
3) Conveying confidence in and respect for student	4.55	15	3.87
4) Being sensitive to students' needs and feelings	4.51	19	3.85
5) Motivating students	4.65	8	4.25

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
6) Working well with other teachers and clinical instructors	4.46	21	3.92
7) Showing genuine interest in what students say	4.45	22	4.02
8) Working well with administrators	4.54	16	3.70
9) Interacting well with faculty from other disciplines	4.30	32	3.61
10) Assisting students to develop their own values, attitudes and beliefs	4.16	40	3.26
11) Being accessible to students out of class	3.95	47	3.05
12) Participating on interdepartmental committees	4.23	36	3.69
IN PROFESSIONAL AWARENESS:			
1) Displaying interest in professional association	4.16	40	3.80
2) Participating in the management of one's department/faculty	4.34	30	4.00
3) Reading professional publications	4.34	30	4.00
4) Displaying concern for continuing professional education	4.48	20	3.95
5) Displaying commitment to the teaching of the profession	4.55	15	3.97
6) Maintaining contact with practitioners of one's profession	4.39	26	3.70

APPENDIX E

SUPERVISOR MEAN RATINGS OF IMPORTANCE AND LEVEL PREPARATION

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
IN LESSON PREPARATION:			
1) Judging the appropriateness of instruction materials	4.00	12	3.62
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training	4.12	11	3.50
3) Selecting appropriate methods of teaching	4.50	5	3.75
4) Organizing course content in a fashion that is understandable to students	4.25	9	4.00
5) Stating instructional objectives in behavioral terms	4.12	11	3.37
6) Defining the objectives of particular lessons and units in terms of student behaviors	3.87	13	3.25
7) Planning instructional activities	4.50	5	4.12
8) Selecting appropriate subject content	4.37	7	4.00
9) Preparing lesson plans	4.37	7	3.50
10) Selecting appropriate content from a large body of expanding knowledge	4.25	9	3.50
11) Selecting appropriate teaching materials	4.25	9	3.75

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
12) Seeking and using the assistance of educational specialists or planning when appropriate	4.25	9	3.62
13) Preparing appropriate teaching aids	4.37	7	3.25
14) Applying accepted principles of adult learning in the design of instructional strategies	4.12	11	3.75
15) Determining learner characteristics	4.25	9	3.87
16) Involving students in the process of defining objectives	4.00	12	3.75
IN COMMUNICATION:			
1) Orally communicating information on a given topic in a coherent logical manner	4.25	9	3.87
2) Writing in a logical, easily understood style with appropriate grammar and sentence structure	4.25	9	3.87
3) Comprehending and correctly interpreting a message after listening	4.25	9	3.87
4) Ability to read, comprehend, interpret professional material	4.75	1	4.62
IN LESSON PRESENTATION:			
1) Using effective questioning techniques	4.42	6	3.71

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
2) Using wit and humour effectively	4.14	10	3.71
3) Encouraging class discussion	4.28	8	3.71
4) Sequencing instructional activities	4.14	10	3.85
5) Maintaining an environment conducive to learning	4.28	8	4.14
6) Adapting to unexpected classroom situations	4.00	12	3.42
7) Utilizing technological equipment to foster effective learning	4.71	2	3.71
8) Relating to students' experience	4.14	10	3.28
9) Continually varying the learning situation in order to keep the students involved	4.57	4	4.00
10) Effectively reinforcing certain kinds of student behaviour	4.00	12	3.71
11) Using valid approaches in teaching	4.71	2	3.71
12) Making difficult topics easy to understand	4.42	6	3.85
13) Explaining things thoroughly	4.71	2	4.14
14) Presenting reinforcement promptly	4.57	4	4.28
15) Maintaining the pace of a lesson	4.42	6	4.14

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
16) Displaying thorough knowledge of subject matter	4.42	6	4.28
17) Summarizing major points	4.57	4	4.00
18) Individualizing instruction	4.42	6	3.57
19) Presenting evidence in controversial issues	4.28	8	3.85
20) Referring students to additional resource persons and materials	4.57	4	4.00
21) Generating enthusiasm	4.71	2	3.85
22) Providing varied learning experiences for achieving objectives	4.57	4	3.71
ASSESSMENT:			
1) Evaluating student achievement	4.50	5	4.00
2) Diagnosing students' learning needs	4.50	5	4.12
3) Monitoring students' progress	4.62	3	4.00
4) Evaluating one's (teacher's) progress	4.37	7	3.75
5) Constructing examinations	4.25	9	3.87
6) Understanding evaluation theories	4.25	9	3.62
7) Grading examinations	4.25	9	3.62
8) Analyzing test items for the sake of accumulating valid and reliable question tools	4.25	9	3.62

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
9) Evaluating clinical performance	4.12	11	3.87
10) Providing prompt feedback on examinations and assignments	4.00	12	3.50
11) Identifying need for diagnostic testing	4.25	9	3.75
12) Giving tests that are pertinent to course objectives	4.25	9	4.12
13) Being fair in evaluations	4.12	11	4.00
14) Telling students when they have done well	4.37	7	4.37
15) Reviewing tests with students	4.50	5	4.12
16) Being concerned with learning rather than testing	4.25	9	4.00
17) Correcting students promptly	4.12	11	3.62
18) Recognizing special achievement	4.12	11	4.00
19) Interpreting diagnostic test results	4.25	9	3.75
IN MISCELLANEOUS CATEGORY:			
1) Understanding and applying curriculum theories	4.25	9	3.25
2) Conducting research	4.25	9	3.50
3) Developing curricula for one's discipline	4.25	9	3.75
4) Understanding and applying various teaching methods	4.12	11	3.50

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	3.75	14	3.00
6) Appreciating educational psychology	4.25	9	3.87
7) Understanding statistical concepts	4.00	12	3.25
8) Utilizing various research methods	4.1[illegible]	11	3.37
9) Using critical incident technique to derive course objectives	4.71	9	3.28
10) Using group dynamic skills	4.37	7	3.75
11) Utilizing statistical procedures in classroom record keeping	4.12	11	3.26
12) Appreciating student counselling	4.37	7	3.62
13) Utilizing management theories to foster classroom discipline	4.25	9	3.37
14) Understanding sociology of education	3.87	13	3.37
15) Developing teaching manuals	4.00	12	3.75
16) Making efficient use of class time	4.37	7	4.00
17) Maintaining classroom order	4.37	7	3.75
18) Identifying classroom misbehaviour	4.25	9	4.37

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
19) Developing a system for keeping class records	4.25	9	3.37
20) Grouping students for instruction	4.12	11	3.37
21) Arranging the classroom environment	4.12	11	3.12
22) Identifying and developing a system for recording individual student progress	4.50	5	3.87
23) Employing effective techniques to correct classroom behaviour	4.00	12	3.50
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	4.37	7	4.00
IN INTERPERSONAL RELATIONSHIPS:			
1) Showing warmth and sympathy to students	4.12	11	4.12
2) Developing positive relationships with students	4.37	5	4.25
3) Conveying confidence in and respect for student	4.25	9	4.00
4) Being sensitive to students' needs and feelings	4.25	9	4.12
5) Motivating students	4.62	3	4.12
6) Working well with other teachers and clinical instructors	4.75	1	4.62
7) Showing genuine interest in what students say	4.25	9	4.25

(cont'd . . .)

	Mean Rating of Importance	Importance Overall Ranking	Mean Rating of Level of Preparation
8) Working well with administrators	4.50	5	3.75
9) Interacting well with faculty from other disciplines	4.62	3	4.37
10) Assisting students to develop their own values, attitudes and beliefs	4.37	7	4.12
11) Being accessible to students out of class	4.50	5	4.28
12) Participating on interdepartmental committees	4.50	5	4.25
IN PROFESSIONAL AWARENESS:			
1) Displaying interest in professional association	4.25	9	4.00
2) Participating in the management of one's department/faculty	4.62	3	4.37
3) Reading professional publications	4.62	3	4.42
4) Displaying concern for continuing professional education	4.50	5	4.25
5) Displaying commitment to the teaching of the profession	4.50	5	4.25
6) Maintaining contact with practitioners of one's profession	4.12	11	3.75

APPENDIX F

AGGREGATE MEAN RATINGS OF PERCEIVED IMPORTANCE OF THE SKILLS, ATTITUDES, AND KNOWLEDGE

	Overall Mean Rating	Overall Ranking of Importance
IN LESSON PREPARATION:		
1) Judging the appropriateness of instruction materials	4.28	31
2) Defining instructional objectives that are consistent with the students' health service role upon completion of training	4.63	5
3) Selecting appropriate methods of teaching	4.64	4
4) Organizing course content in a fashion that is understandable to students	4.61	7
5) Stating instructional objectives in behavioral terms	4.47	16
6) Defining the objectives of particular lessons and units in terms of student behaviors	4.35	28
7) Planning instructional activities	4.39	24
8) Selecting appropriate subject content	4.61	7
9) Preparing lesson plans	4.41	22
10) Selecting appropriate content from a large body of expanding knowledge	4.17	40
11) Selecting appropriate teaching materials	4.53	12
12) Seeking and using the assistance of educational specialists or planning when appropriate	4.00	48

(cont'd . . .)

	Overall Mean Rating	Overall Ranking of Importance
13) Preparing appropriate teaching aids	4.40	23
14) Applying accepted principles of adult learning in the design of instructional strategies	3.98	49
15) Determining learner characteristics	4.25	34
16) Involving students in the process of defining objectives	3.78	51
IN COMMUNICATION:		
1) Orally communicating information on a given topic in a coherent logical manner	4.36	26
2) Writing in a logical, easily understood style with appropriate grammar and sentence structure	4.40	23
3) Comprehending and correctly interpreting a message after listening	4.45	19
4) Ability to read, comprehend, interpret professional material	4.50	14
IN LESSON PRESENTATION:		
1) Using effective questioning techniques	4.50	14
2) Using wit and humour effectively	4.04	46
3) Encouraging class discussion	4.50	14

(cont'd . . .)

	Overall Mean Rating	Overall Ranking of Importance
4) Sequencing instructional activities	4.39	24
5) Maintaining an environment conducive to learning	4.57	9
6) Adapting to unexpected classroom situations	4.04	46
7) Utilizing technological equipment to foster effective learning	4.42	20
8) Relating to students' experience	4.22	36
9) Continually varying the learning situation in order to keep the students involved	4.53	12
10) Effectively reinforcing certain kinds of student behavior	4.30	30
11) Using valid approaches in teaching	4.47	16
12) Making difficult topics easy to understand	4.50	14
13) Explaining things thoroughly	4.37	26
14) Presenting reinforcement promptly	4.52	13
15) Maintaining the pace of a lesson	4.18	39
16) Displaying thorough knowledge of subject matter	4.47	16
17) Summarizing major points	4.62	6
18) Individualizing instruction	4.00	48
19) Presenting evidence in controversial issues	4.05	45

(cont'd . . .)

	Overall Mean Rating	Overall Ranking of Importance
20) Referring students to additional resource persons and materials	4.52	13
21) Generating enthusiasm	4.28	30
22) Providing varied learning experiences for achieving objectives	4.55	11
ASSESSMENT:		
1) Evaluating student achievement	4.67	2
2) Diagnosing students' learning needs	4.49	15
3) Monitoring students' progress	4.63	5
4) Evaluating one's (teacher's) progress	4.38	25
5) Constructing examinations	4.70	1
6) Understanding evaluation theories	4.35	28
7) Grading examinations	4.42	21
8) Analyzing test items for the sake of accumulating valid and reliable question tools	4.39	24
9) Evaluating clinical performance	4.36	27
10) Providing prompt feedback on examinations and assignments	4.50	14
11) Identifying need for diagnostic testing	4.11	44
12) Giving tests that are pertinent to course objectives	4.60	8

(cont'd . . .)

	Mean Rating	Overall Ranking of Importance
13) Being fair in evaluations	4.43	20
14) Telling students when they have done well	4.56	10
15) Reviewing tests with students	4.40	23
16) Being concerned with learning rather than testing	4.02	47
17) Correcting students promptly	4.38	25
18) Recognizing special achievement	4.14	42
19) Interpreting diagnostic test results	4.17	40
IN MISCELLANEOUS CATEGORY:		
1) Understanding and applying curriculum theories	4.56	10
2) Conducting research	4.30	30
3) Developing curricula for one's discipline	4.53	12
4) Understanding and applying various teaching methods	4.57	9
5) Developing simple instructional materials (audiotapes, overhead transparencies, etc.)	4.23	35
6) Appreciating educational psychology	4.33	29
7) Understanding statistical concepts	4.04	46
8) Utilizing various research methods	4.23	35
9) Using critical incident technique to derive course objectives	3.76	52

(cont'd . . .)

	Overall Mean Rating	Overall Ranking of Importance
10) Using group dynamic skills	4.15	41
11) Utilizing statistical procedures in classroom record keeping	3.94	50
12) Appreciating student counselling	4.27	32
13) Utilizing management theories to foster classroom discipline	4.30	30
14) Understanding sociology of education	4.14	42
15) Developing teaching manuals	4.21	37
16) Making efficient use of class time	4.36	27
17) Maintaining classroom order	4.42	20
18) Identifying classroom misbehavior	4.25	34
19) Developing a system for keeping class records	4.18	39
20) Grouping students for instruction	4.14	42
21) Arranging the classroom environment	4.12	43
22) Identifying and developing a system for recording individual student progress	4.43	20
23) Employing effective techniques to correct classroom behavior	4.15	41
24) Defining instructional objectives that are consistent with the school's educational philosophy and mission	4.42	21

(cont'd . . .)

	Overall Mean Rating	Overall Ranking of Importance
IN INTERPERSONAL RELATIONSHIPS:		
1) Showing warmth and sympathy to students	4.21	37
2) Developing positive relationships with students	4.52	13
3) Conveying confidence in and respect for student	4.56	10
4) Being sensitive to students' needs and feelings	4.46	18
5) Motivating students	4.66	3
6) Working well with other teachers and clinical instructors	4.60	8
7) Showing genuine interest in what students say	4.42	20
8) Working well with administrators	4.47	16
9) Interacting well with faculty from other disciplines	4.40	22
10) Assisting students to develop their own values, attitudes and beliefs	4.19	38
11) Being accessible to students out of class	4.04	46
12) Participating on interdepartmental committees	4.25	34
IN PROFESSIONAL AWARENESS:		
1) Displaying interest in professional association	4.26	33
2) Participating in the management of one's department/ faculty	4.46	17

(cont'd . . .)

	Overall Mean Rating	Overall Ranking of Importance
3) Reading professional publications	4.45	18
4) Displaying concern for continuing professional education	4.50	14
5) Displaying commitment to the teaching of the profession	4.62	6
6) Maintaining contact with practitioners of one's profession	4.43	20

APPENDIX G

ONE-WAY ANALYSIS OF VARIANCE TABLES

Comparison of the Level of Preparation Mean Ratings of
Graduates Grouped by Teaching Experience (Item #6, Lesson Preparation)

Teaching Experience	Number of Respondents	Mean Ratings	Standard Deviation	F Value	Probability	Groups Significantly Different		
						1	2	3
1) Up to 3 years	22	3.90	1.15	3.98*	0.02		+	
2) 4-6 years	14	4.71	.46					
3) 7 or more years	7	4.57	.53					

* With df = 42, F .05 $\geq$ 3.86.

+ Indicates groups significantly different.

Comparison of the Level of Preparation Mean Ratings of Graduates Grouped by Year Diploma in Education was Awarded (Item #4, Assessment)

Year Diploma in Education Was Awarded	Number of Respondents	Mean Ratings	Standard Deviation	F Value	Probability	Groups Significantly Different			
						1	2	3	4
1) 1980	4	4.75	0.50	4.89*	0.006				
2) 1981	5	2.80	0.83					+	
3) 1982	13	4.46	0.51						+
4) 1983	15	3.26	1.57						

* With df = 36, F .05 $\geq$ 4.89.

+ Indicates Groups significantly different.